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ORIGINAL LECTURES.

MACEWEN'S OPERATION FOR CONGENITAL INGUINAL HERNIA.

A Clinical Lecture.

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GENTLEMEN: The patient we present to-day is this little child, with the following history: He is now eighteen months old. His mother states that soon after his birth she noticed a swelling in the lower part of the abdomen, appearing simultaneously over each inguinal canal. When the child was about three weeks old, it was seen that the swelling extended lower down; the mother noticed that the swelling increased along the course of the inguinal canal when the child made any violent effort, such as coughing, crying, straining, or any exertion that brought into play the diaphragm or abdominal muscles. Some weeks later she took the child to a dispensary, where a truss was adjusted, but the instrument did not prevent the reappearance of the swelling in the scrotum. During the past year a number of trusses have been applied, but none of them prevented the recurrence of the hernial swelling.

Now, when an infant is brought to us suffering from a tumor of the scrotum, it may be one of a variety of diseases, and it is well to make a diagnosis by exclusion. Let us enumerate some of the various tumors that may occupy the scrotal pouch. We may have either a hernia, hydrocele, epididymitis, hæmatocele, varicocele, œdema, or an orchitis, or a complication of two or more of these affections. How shall we differentiate these varied conditions? What will aid us in a correct diagnosis in a given case? For diagnostic or clinical purposes tumors of the scrotum may be divided into two general classes, namely: reducible and irreducible. The reducible tumors include all varieties of hernia (except strangulated), varicocele, and congenital hydrocele. Irreducible tumors include those connected with the testicles, all hydroceles (except congenital), and strangulated hernia. Tumors of the tegumentary surface of the scrotum, such as inflammatory œdema, elephantiasis, and epithelioma, are usually so characteristic in their history as to offer no special impediments to a correct diagnosis.

Scrotal hernia may be mistaken for (1) hydrocele of tunica vaginalis, or cord, or for encysted hydrocele; (2) sarcocele of the testicle, either simple, tuberculous, cystic, or malignant; (3) varicocele; (4) hæmatocele; (5) bubo or an undescended testis.

In scrotal hernia, as a rule, the tumor is soft and doughy to the touch, light in weight, smooth and regular, and painless, unless inflamed or strangulated. Its advent is sudden, and from above downward; it is resonant on percussion; fills the inguinal canal; has an impulse on coughing; and is of normal opaque color, and gurgles on pressure. It may exist on either side; the spermatic cord is concealed; the tumor does not fluctuate; aspiration gives negative results, and the bowels may be embarrassed. It can be reduced, unless the hernia is strangulated or incarcerated.

In hydrocele of the testicle the tumor is ovoid or pyriform; develops slowly from below upward; is firm, tense, and elastic; is translucent, fluctuating and dull on percussion, and is reducible. The spermatic cord is neither concealed nor displaced; the inguinal canal is empty; the bowels are unaffected, and aspiration reveals fluid.

In congenital hydrocele the fluid completely disappears within the peritoneal cavity if the tumor is compressed for a short time.

In sarcocele of the testicle the tumor is usually hard and resistant; heavy; often nodular and irregular; painful; grows slowly, and is dull or flat on percussion. The inguinal canal is empty; there is no impulse on coughing; the bowels are unaffected; the tumor is irreducible, and there are no auscultatory sounds. Simple sarcocele is a chronic orchitis, both the epididymis and body of the gland being affected, and the cord is usually thickened. Abscess of the organ may occur, and is usually caused by an injury followed by inflammatory deposits. Tubercular sarcocele is met with most frequently in early manhood, and may occur in any variety of constitution—in the strong and robust, as well as the weak and cachectic—and although often associated with tuberculosis of other organs, it is not uncommon to find the tuberculous nidus in the epididymis, not as a sequence of gonorrhœal inflammation or some slight injury followed by inflammatory infiltration, as was formerly believed, but as a coincident. The progress is slow and insidious. The gland at first moderately enlarges, with little or no pain, the hypertrophy being especially marked in the globus major. Presently the outline of the tumor becomes nodulated, and it extends around the testicle from behind forward. After several months, the adventitious tissue exceeds in size the testicle proper, and then it begins to soften, and one or more abscesses burst and discharge a thin, shreddy pus. The vas deferens is greatly enlarged.

In syphilitic sarcocele, or gumma, the history of the patient guides us in the diagnosis. We also find that the body of the gland is usually the seat of the infiltration which takes place in the connective tissue between the tubuli seminiferi, the epididymis undergoing little, if any enlargement. The cord and vas deferens are unaffected. There is little or no tenderness, and the peculiar sensation elicited by squeezing a healthy testicle is absent. The tunica albuginea is very greatly thickened. Hydrocele is a frequent complication, and tapping is often required to establish a diagnosis.

Cystic tumors of the testis closely resemble hydrocele, and differ chiefly in being opaque instead of translucent. Aspiration should be practised before pronouncing positively upon their character.

Cancer of the testicle primarily invades the body of the gland, and almost invariably assumes the encephaloid form. Most observers doubt the existence of other varieties of malignant disease in this organ. The development of the disease is rapid. The patient has a sensation of weight, pain, and dragging in the testis; the scrotum becomes distended, and reddish or purplish, and the superficial veins are enlarged. The skin adheres to the gland, ulceration occurs, fungous growths protrude, the inguinal glands are secondarily involved, and the patient by this time presents the characteristic cancerous cachexia.

In varicocele the tumor develops gradually; is knotty and irregular, like a bag of worms; is bluish in color, and is most frequent upon the left side. It increases in size upon the application of heat; is dull on percussion; fluctuation is doubtful, and the spermatic cord is not affected, nor is the inguinal canal involved. There is no cough-impulse. The tumor disappears when the patient assumes any position that favors increased venous return, but immediately returns when he stands up, notwithstanding pressure at the ring. There is a sensation of weight and dragging in the scrotum.

In hæmatocele the advent is sudden, and usually follows traumatism. The tumor grows from below upward, if it arises spontaneously; at first it is soft and fluctuating, but when coagulation occurs it becomes hard. It is pyriform in shape; ecchymotic, irreducible, heavy, and dull on percussion. The spermatic cord is unaffected, and the inguinal canal empty. There are often pallor and prostration from loss of blood. The bowels are unaffected.

Bubo is seldom mistaken for a scrotal tumor, and it is unnecessary to name the differential points.

An undescended testicle is painful, and pressure upon it causes a peculiar, sickening pain. The scrotum is imperfectly developed upon the same side, and, of course, does not contain the testicle. It is sometimes mistaken for bubonocele.

Now, gentlemen, I trust that this minute enumeration of diagnostic points may not be considered tedious or unnecessary, and that a remembrance of them will aid you in making a correct diagnosis.

Let us return to the patient before us. We have here a soft, elastic, compressible, reducible swelling, occupying both sides of the scrotal pouch; cough-impulse is present, and gurgling is plainly felt. Upon flexing the thighs, elevating the hips, grasping the scrotum gently, and making moderate compression, the tumor disappears within the abdominal cavity. Inversion of the bottom of the scrotum by the little finger enables us to follow readily the receding mass through the dilated inguinal canal and distended inguinal ring into the abdominal cavity. With the history presented, and with the result of this physical examination, we are enabled to make a diagnosis of *double congenital oblique inguinal hernia*.

Now, inasmuch as persistent efforts during the past year have been made by able surgeons to retain this hernia *in situ* by various trusses, without success, what plan of treatment shall we adopt? The treatment of the affection, as you know, may be divided into *palliative* and *radical*, or *curative*. Palliative treatment consists in the use of such apparatus, instruments, or trusses, fitting over the inguinal ring, as will prevent the extrusion of the hernial tumor. They must be fitted with sufficient nicety to the contour of the parts to inflict the minimum amount of pain, and yet with sufficient firmness to resist the intra-abdominal and intra-thoracic pressure produced by coughing, crying, straining during urination or defæcation, or any exercise of the voluntary muscles that causes downward pressure upon the abdominal viscera. In a large proportion of cases a properly adjusted truss, continuously worn during the first few months or year or two of infantile life, will effect a permanent occlusion of the distended inguinal ring; but occasionally we meet with cases, such as the one we have just examined, where cure by means of a truss is impossible.

If it is impossible to retain the hernia within the abdomen, then it becomes necessary to resort to more radical measures—to closure of the enlarged canal by means of a surgical operation. One of the best operations for this purpose is that devised by Macewen, of Glasgow.

Macewen's operation consists, first, in a thorough cleansing of the field of operation with soap and water, and removing by means of turpentine all animal oil from the surface. The parts are then covered with lint saturated with a bichloride solution. In the case of an adult, the hair of the pubes and neighboring parts is closely shaven. The patient is then anæsthetized, and the limb on the side of the swelling is flexed at the knee and retained in that position by a pillow placed beneath. After having reduced the bowel, the operator makes an incision sufficiently large to expose the external abdominal ring. An exploration of the sac and its contents is then made, and the finger introduced through the canal examines the abdominal aspects of the internal ring, and determines the position of the epigastric artery. The following steps of the operation may then be divided into two parts—the one relating to the establishment of a pad on the abdominal aspects of the internal ring; the other to the closure of the inguinal canal. The details are as follows:

The surgeon frees and elevates the distal extremity of the sac, preserving any adipose tissue that may be adherent to it. When that is done, he pulls upon the sac, and, while maintaining the tension, introduces the index-finger into the inguinal canal, separating the sac from the cord, and from the parietes of the canal; he then inserts the index-finger outside of the sac until it reaches the internal ring, and there he separates the peritoneum for about half an inch around the abdominal aspects of the ring. Next, a suture is firmly secured to the distal extremity of the sac, and the free end is passed in a proximal direction several times through the sac, so that when pulled upon the sac becomes folded upon itself like a curtain. The free end of this stitch, threaded on a hernia-needle, is made to traverse the canal and to penetrate the anterior abdominal wall about an inch above the internal ring, the wound in the skin being pulled upward so as to allow the point of the needle to project through the abdominal muscles without pene-

trating the skin. The needles that Macewen uses are corkscrew-shaped, with an eye in the point, and are made rights and lefts. The thread is relieved from the extremity of the needle, when the latter is withdrawn, and is pulled through the abdominal wall; and when traction is made the sac is thrown into a series of folds, its distal extremity being drawn backward and upward. An assistant maintains traction upon this stitch until the introduction of the sutures into the inguinal canal, and when this is completed the end of the first suture is secured by passing its free extremity several times through the superficial layers of the external oblique muscle. The pad of peritoneum is then placed upon the abdominal side of the internal opening, where, owing to the abdominal aspect of the circumference of the internal ring having been freshened, new adhesions may form. The sac having been returned into the abdomen and secured to the abdominal circumference of the ring, the inguinal canal is closed outside of it in the following manner: The finger is introduced into the canal between the inner and lower borders of the internal ring; the threaded hernia-needle is then introduced, and, guided by the index-finger, is made to penetrate the conjoined tendon—first, from without inward, near the lower border of the conjoined tendon; second, from within outward as high as possible on the inner aspects of the canal. This double penetration of the conjoined tendon is accomplished by a single screw-like turn of the needle, when a single thread is withdrawn from the point of the needle by the index-finger; after which the needle, with the other extremity of the thread, is removed. The inner side of the conjoined tendon is therefore penetrated twice by the thread, and a loop is left on its abdominal aspect. The other hernia-needle, threaded with that portion of the stitch which comes from the lower border of the conjoined tendon, is guided by the index-finger into the inguinal canal, and introduced from within outward through Poupart's ligament and the aponeurotic structures of the internal and external oblique muscles. It penetrates these structures at a point on a level with the lower stitch in the conjoined tendon. The needle is then completely freed from the thread and withdrawn. The needle is now threaded with the suture, which protrudes from the upper border of the conjoined tendon, and is introduced from within outward through the internal and external oblique muscles on a level corresponding with the upper stitch in the conjoined tendon. It is then freed from the thread and withdrawn. There are now two thread-ends on the outer surface of the external oblique muscle, and these are connected with a loop on the abdominal aspect of the conjoined tendon. To complete the suture, the two thread-ends are drawn together and tied in a reef-knot; thus firmly uniting the internal ring. The same stitch may be repeated lower down the canal, if thought desirable. In adults it is well to do so. The pillars of the external ring are likewise brought together, and, in order to avoid compression of the cord, it should be examined before tightening each stitch. It is advisable to introduce all the sutures before tightening any of them. When this is done, they all may be drawn tight, and maintained so, while the operator's finger is introduced into the canal to ascertain the result. If satisfactory, they are then tied, beginning with the one at the internal ring, and taking up the others in order.

During the operation the skin is retracted from side to side to bring the parts into view and to enable the stitches to be fixed subcutaneously. When the retraction is relieved the skin falls into its normal position, the wound being opposite the external ring. The operation is, therefore, partly subcutaneous. When the canal has been brought together, a decalcified bone drainage-tube is placed with its one extremity next to the external ring, the other projecting beyond the lower border of the external wound. A few chromicized gut sutures are then introduced along the line of the incision in the skin. Iodoform is dusted over the wound, a small portion of sublimated gauze is applied, and over this a sublimated pad, held in position by an aseptic bandage. When the patient is laid in bed, a pillow is placed under his knees, while his shoulders are slightly raised, so as to relax the tissues about the canal. The temperature is taken night and morning, and the dressings are left undisturbed for from fourteen to twenty-one days, unless they are stained or the temperature is elevated.

From four to six weeks after the operation the patient is allowed to rise from the bed, but is not permitted to work until the end of the eighth week, and is further advised not to lift heavy weights until the end of the third month. Adults engaged in laborious occupations are advised to wear a bandage and pad as a precautionary measure, but in the majority of children the closure is so complete and firm that further treatment by a pad is unnecessary.

In the case of this little child, who is now under the influence of an anæsthetic, we will modify this operation, inasmuch as we have to deal with a congenital hernia in which the loop of bowel and the testicle occupy a common sac—there is no tunica vaginalis. After the preliminary incision, I will separate the sac from its connections; then open it transversely about an inch and a half above its distal extremity, and form the lower part into a tunica vaginalis by closing it with fine continuous catgut suture. The upper part of the sac is now pulled down as far as possible, split longitudinally behind, a portion of it closed around the cord, which is carefully preserved, and that part which is left is now dealt with as the sac of an acquired hernia; passing a stitch through its distal portion a number of times, so that it becomes folded up as a curtain. Then with the finger I separate the attachments around the circumference of the abdominal ring. I then pass a needle through the abdominal wall an inch above the ring, bringing the thread out, where it is held by an assistant. Traction upon this cord forms the intra-abdominal pad or boss—a firm buttress that resists the intra-abdominal pressure.

I now proceed to close the internal ring in the manner described, passing two or three sutures along the course of the canal, drawing them snugly together, yet not tight enough to strangulate the cord. A drainage-tube is now passed from the upper angle of the wound and brought down through a slit in the bottom of the scrotum, so as to afford perfect drainage. The parts are now irrigated with a 1-to-3000 solution of bichloride, the wound closed with interrupted catgut sutures, dusted with iodoform, and hermetically sealed with cotton and collodion, so as to prevent infection from the urine, which is liable to occur in the case of infants or young

children. In closing the wound in this way we reduce the risk of infection to a minimum. A heavy antiseptic dressing will now be applied, and covered with a starch bandage. The child will be kept as quiet as possible, small doses of camphorated tincture of opium will be administered from time to time, and the dressing will probably have to be changed every second day. The mother will be directed to keep the child lying on the left side as much as possible, so as to avoid soiling the dressing during urination. The operation on the left side will be deferred until permanent healing of the right has taken place—probably for two or three weeks.

[NOTE.—A week later the child was presented to the class, and showed primary closure of the wound, except at the upper angle and the scrotal button-hole through which the drainage-tube emerged. Slight suppuration had taken place along the course of the drainage-tube. The highest temperature was 100.5°, on the day following the operation; the second day it dropped to 98.5°, and remained normal, the child showing no symptoms or evidences of having undergone a serious or dangerous operation, the result so far being in every way eminently satisfactory.]

ORIGINAL ARTICLES.

CONTINUOUS DRAINAGE IN THE TREATMENT OF ASCITES—ABDOMINAL SECTION FOR INTESTINAL OBSTRUCTION.[1]

BY T. A. HARRIS, M.D.,
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I HAVE been prompted by certain articles on the "Benefits of Successive Tapping in Ascites" to report my success with continuous drainage in similar cases. It seemed to me that the continuous drainage of serous effusion would prove beneficial in cases with no organic disease of either the liver, kidneys, or heart.

CASE I.—In August, 1888, I was requested by a country friend to see Mrs. B., with him. The history of the case was that the patient had been delivered by my friend after a tedious labor, some five or six months before; that the placenta had been retained, and that he had introduced his hand into the uterus and delivered it. The patient had a slow "getting up," and had not been well since. Some three months after her delivery the abdomen began to enlarge. The enlargement was evidently ascitic. She suffered with soreness and tenderness over the abdomen. The secretion of urine was very scanty, but normal in character. When I saw her the abdomen was about as large as that of a woman at term. She was somewhat emaciated, but complained of nothing except the inconvenience and discomfort of the abdominal enlargement. Upon examination I could find no disease either of the heart, liver, or kidneys. She had had four children. She said that while carrying the last child she had had some soreness in the region of the right ovary; that when the doctor removed the afterbirth with his hand, it caused pain in the same region, and that afterward she was very sore over her entire abdomen.

I tapped her and drew off a large amount of ascitic fluid, a peculiarity of which was that it contained quite an amount of whitish flocculent matter. She was greatly relieved by the operation; the action of the kidneys was restored and she passed urine freely. But the dropsical effusion gradually returned, with the former symptoms, and in a month she was as large as before. I visited her again and found her in about the same condition as when I had first seen her. I then determined to make the second operation, if possible, more effective than the first. I had come prepared to introduce a drainage-tube, and to leave it in place. This I did, with the necessary antiseptic precautions. After introducing the trocar and canula I withdrew the trocar, and at once passed a drainage-tube through the canula. I then withdrew the canula and allowed the fluid to flow through the drainage-tube. About as much fluid escaped as after the first tapping. In order to prevent the drainage-tube from slipping in or out, I stitched it to a piece of adhesive plaster placed over the abdomen, and through which the end of the tube projected. Here I made my mistake, for in three days there was so much inflammation about the tube that it was necessary to remove it. Under simple treatment all the irritation quickly subsided, but there was again a return of the former trouble, so that in three weeks she was nearly as large as before. At the third tapping I determined that nothing should be lacking, and I left the tube in place with most careful antiseptic precautions. Three weeks from the date of the operation she travelled fifteen miles on the railroad to see me; the drainage-tube still in place. She said that the discharge for the first week had been quite free, but during the last two weeks much less. As there was still some discharge when she was in the recumbent position I did not think it best to remove the tube, and asked her to see me again in another week. She did not return until the expiration of two weeks, when she said that there had been no discharge for more than a week. I then withdrew the tube.

This was more than a year ago, and I have seen the patient several times since, once within the past month. She is well and has had no return of the trouble.

I know that "one swallow does not make a summer," and that one case does not establish a principle, but I have recently had a very similar case (October, 1889):

CASE II.—I was again asked by a brother-practitioner to see a patient, and was given the general statement that the case was one of dropsy following confinement. On making the visit, I found an apparently healthy woman with an ascitic enlargement equal to that of the seventh month of pregnancy. She had been confined about four months before, and easily delivered of her fourth child. She was attended only by a neighboring woman. There was nothing unusual during her convalescence, but a few weeks later she noticed that her abdomen was

[1] Read before the West Virginia Medical Society, June 13, 1890.

enlarging. This did not at first cause her any uneasiness, as she said that she had noticed a similar, though slight, condition after the birth of her previous children. There was no discoverable disease of any of the viscera, and this fact, in connection with her statement as to enlargement after previous confinements led me to regard the effusion as due to some peritoneal irritation, if not to inflammation of a mild type; and I decided to try the effect of continuous drainage. With the usual precautions the drainage-tube was introduced through the canula and held in position by a strip of adhesive plaster, through which it passed and to which it was stitched. The case was left in the hands of my friend, who has since informed me by letter that the day after the operation he was summoned in haste to see the patient, and that he found her with a temperature of 102°, and a pulse of 110, and complaining of much pain over the region of the right kidney. The drainage-tube was all right and there was no abdominal pain. With warm fomentations over the region of the kidney and the use of an anodyne and antipyretic, the pain, the temperature, and the pulse were reduced by the next day, and from this time the course of the case was uneventful. There was some discharge from the tube for a few days, but by the end of a week there was none. The tube was retained for two weeks and then removed. There has been no return of the ascites; the patient is up and attending to the duties of a country housewife.

CASE III.—In July, 1888, I was asked to see a patient in an adjoining State, said to be suffering from dropsy. I found a woman whom I had seen several years before, on account of a uterine fibroid, and who was at that time in fair health, and suffering in no way from the tumor. I had advised against any operation for its removal, and told her that no medicine would be of any special advantage to her. Not satisfied with this advice, she had gone to a quack in a neighboring town, who promised to relieve her by medical treatment. She suffered much at his hands, from purgatives and diuretics, all to no purpose. She then fell into the hands of a homœopath, whose promises were about as futile as those of the quack.

When I saw her the second time she was so distended that respiration was seriously interfered with. I tapped, and drew off a large amount of ascitic fluid. The uterine fibroid was in its former place. The woman was in an extremely exhausted condition. I expressed the opinion that the fluid would again accumulate, and promised that if it did I would remove it, and make provision against its further return. In about a month I was recalled to the case, and found things about as at first, except that the patient's general condition was worse. I again tapped, introduced a drainage-tube, and left it in place. I did not see her again, but learned that the tube was effective in preventing any re-accumulation of fluid, but that there was some slight discharge until the time of her death, more than a month after the tube had been inserted.

CASE IV. *Abdominal section.*—I was sent for on March 9, 1890, to consult with Dr. William Kurn, of Lübeck, upon a case of obstruction of the bowels, in a boy of about fourteen years. The obstruction was of five days' duration, and there had been stercoraceous vomiting during the day. All reasonable and proper efforts had been made to produce a movement of the bowels.

I found a decided lump in the right iliac region, which was quite tender on pressure. There was a moderate amount of tympany. Under the circumstances I decided that there was but one thing to do, namely, to open the abdomen and find the cause of the obstruction. With the consent of the family this we did, at midnight, by the light of two small lamps, and in a log-cabin, from which we had to expel a crowd of people, several dogs, and a coop of chickens. The abdomen was opened with antiseptic precautions, by an incision over the lump in the right iliac region. The first thing that presented was the distended small intestine, which was healthy in appearance. Passing my finger in, I drew into sight the empty and flaccid ascending colon, and then the cæcum. Replacing these, I drew out the small intestine, working my way down toward the ileo-cæcal valve, when, after a little resistance, I drew out six or eight inches of deeply congested intestine. This was evidently the portion which had passed into the ileo-cæcal valve. Its withdrawal was attended with a gurgling sound, due to the rush of the contents into the cæcum. The obstruction was relieved. I then reversed my mode of procedure, and worked my way up the intestine as high as possible, and tried to force down with my fingers the contents of the distended small intestine into the colon. I found it easy to press onward the liquid contents, but the gas slipped through my fingers, leaving the small intestine about as much distended as at the beginning. I closed the wound with deep sutures of silver and superficial of silk, dressed it antiseptically, and put the boy to bed. He rallied well. I saw him again on March 13th, when I opened the dressing, and found the wound in good condition, excepting a superficial abscess just above the upper end of the wound. I cut the upper silk stitch, and let out about a teaspoonful of pus. After this the course of the case was uneventful. The bowels moved twenty-four hours after the operation, and continued open. Six weeks from the date of the operation, the boy rode six miles in a wagon to my office. He said that he was "well, and wanted to go to work."

I have reported this case in order to encourage early operations in cases of intestinal obstruction. I have seen a number of such cases, and this is the first that did not die. The operation was performed under very unfavorable circumstances as to time, place, and assistance, and yet was entirely successful. Why, then, shall we hesitate under more favorable circumstances, when the dire alternative of death stares us in the face?

In a case of intestinal obstruction I think that milder measures, such as purgatives, enemata, and massage, should be persisted in, *only* until the occurrence of stercoraceous vomiting, or of some other critical condition; then an exploratory incision

should be made, without reference to the obscurity of the diagnosis, for whatever condition the obstruction is dependent upon, there is little chance of recovery by other than operative treatment. Nor do I think the surgeon should stay his hand, let the condition of the patient be ever so desperate. Desperate conditions require desperate remedies, and in the average surgical mind I think that the operation is regarded as more desperate and dangerous than the facts warrant, when it is done with the precautions demanded by modern surgical teachings.

HYPNOTISM IN A RELIGIOUS MEETING.

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IN a large tent in St. Louis, capable of holding 3000 or 4000 people, most extraordinary "religious meetings" have recently been held. These so-called "revival meetings" were led by one Maria B. Woodworth, who is, in my opinion, a paranoic of a strongly religious type.

The writer's attention was called to the subject by several of his patients, who averred that Mrs. Woodworth was a prophetess sent directly from Heaven, and that people were so impressed with her preaching that they were prostrated to the ground, and that while in this condition many had visions of heaven, angels, etc.

Together with Dr. Wellington Adams, I attended some of the meetings and found the statement to be correct that "people were prostrated to the ground," and I doubt not many had visions such as they describe. The meetings, for a time, increased in size, while the number hypnotized each evening increased proportionately. One evening the crowd in the tent was estimated at 5000 (many standing) while, it is said, nearly an equal number were turned away for want of room.

The beginning of the meeting is principally occupied by Mrs. Woodworth, who speaks to the audience. The address, for the most part, is an incoherent, unintelligible jargon, but occasionally a few sentences can be understood. The latter usually have to do with the supernatural occurrences related in the Bible, such as the Transfiguration, the descent of the Holy Spirit on the Apostles, or the miracles. Perhaps her favorite themes are the visions, especially those related in the Book of Revelations. She frequently interrupted herself (if such a discourse can be said to be interrupted) to tell of visions which she herself has had, or to describe one of the very many "cures" of physical ailments which have been effected by the "power" manifested in her meetings. Her address is usually very long and I noted that she never became excited nor did she have any tendency to "shout," or unduly elevate her voice, as is so common in the ordinary revival meeting. On the contrary, there was a quiet confidence expressed in her manner which was very suggestive of the delusional, self-conceited paranoic, strong in her own beliefs.

Toward the end of her discourse she begins to exhort her hearers to "Look up to the Lord"—"Hold up your hands"—"Have faith." Her followers obey her injunctions literally; they fix their eyes steadfastly on the electric lights high above them, or on the intricate mass of converging tent-ropes beyond. In this position a few of the more susceptible of her believers succumb. They go into the first or cataleptic stage of hypnotism while the exhorter is relating from the Bible or from her own experience the visions of heaven. A hymn then follows which is of a peculiar, monotonous character and well adapted to assist in promoting the hypnotic condition in many who are slightly or not at all influenced by the visual impressions alone. The hymn is usually repeated a number of times. During the singing, Mrs. Woodworth and her assistants (of which there are several) walk up and down the long platform encouraging those who are nervous, uneasy, or in any way visibly affected, to "hold up their hands, look up, and think of the Lord." The greatest number succumb during the singing.

As may be expected, more women than men are affected. At one large meeting the number more or less hypnotized must have been fully one hundred. Some were typical cases, exhibiting the three stages of hypnosis, namely, catalepsy, lethargy, and artificial somnambulism. When laid upon their backs on the platform, where the subjects were brought as rapidly as they became affected, those representing the typical condition lay with the eyes wide open, pupils dilated, and with a vacant or fixed stare; the arms unsupported extended upward and outward. One young woman whom I watched closely did not wink or move her eyeballs during the ten or fifteen minutes that I observed her. I attempted to place my finger upon her eyeball but was, in sharp terms, forbidden to do so by the attendant at her side. Many were more or less affected while on their feet; others while observing the directions of the leaders entirely failed in the consummation of their purpose.

A particularly shocking feature of the meetings was the hypnosis of children, of whom several were usually affected.

The force of example must have a strong influence with many. In Charcot's clinic the subjects for hypnosis are several times shown others in the hypnotic condition before any attempt is made to hypnotize them. This preparation causes a mental impression which makes the subsequent actual at-

tempts at hypnosis more generally successful and with fewer trials. Now most of Mrs. Woodworth's subjects have precisely this preparation; *i. e.*, they attend a number of meetings, become mentally impressed, and at subsequent meetings succumb with ease.

The question as to whether Mrs. Woodworth is an impostor or a case of religious insanity naturally arises. Judging from the meetings, from her autobiography, and more especially from an interview that I had with her, I am strongly of the latter opinion.

She states that she was born in 1845, in a small town in Ohio, but soon removed to Salem, in the same state. She denies inherited mental taint, but says that her husband was mentally unsound at one time. Four out of five of her offsprings died in childhood—one of "scrofula," another of some lingering malady.

She states that she never knew what the "power" was—never witnessed it until she had been engaged in evangelistic work for two years. When a child of thirteen she knew that the Lord had ordained her to go out and preach the gospel, and she became converted, but she fought against God. One day while sitting alone in her room she saw the vision of the Bible on the wall. The letters were raised and the book shone as brightly as the sun. This call to preach was an audible call, heard with her ears just as she hears anyone's voice now. After this she had many visions. At first the voice of God frightened her very much, but in time she became accustomed to it. The idea of going out to preach was so repugnant to her—because a woman—that she seriously contemplated suicide. A vision of the devil, who came and tempted her, also exerted a depressing effect upon her. Her lack of education, she also felt, was a serious obstacle. During this time of struggle and indecision the Lord came and persuaded her to go. She saw a bright light, too, and angels flying all around her.

She married at an early age. After marriage the struggle continued, and the devil came to tempt her, but the Lord told her that she must go out and preach or lose her soul. In this particular vision the Saviour was on the cross; his face was so bright that she could not see it distinctly. There was a crown of thorns at His feet. This vision occurred when she was at the age of thirty-four. She told the Lord of the difficulties which she felt were in her way—lack of education, etc., when the Lord gave her power to preach just as he had given it to the Galilean fisherman. She then began her work. During the first few years of her preaching no one was stricken down in the meetings, and she was frightened when she first saw the people fall down. In this extremity the Lord came to her again and said: "Sister, don't you remember the vision of the grain?" This vision she had beheld some time before, and was as follows: One day angels came into her room—"a whole flock of them." They carried her up and into the West, miles and miles away, over prairies and forests, and lakes and rivers. Then they stopped, resting in the air on their wings, and she saw a long, wide field of waving grain. She then began to preach, and saw the grain fall into sheaves. This she compares to Ezekiel's vision. Christ then came to her and said: "Be not afraid, that is the way you'll do when you preach to real people."

At present she seldom has visions except when "under the power," but frequently hears voices while sitting in her room, or while in bed, and she often converses aloud with the Deity. Her assistant or attendant states that she frequently finds Mrs. Woodworth standing in her room with fixed gaze and wholly immobile.

One evening during the progress of the meeting, Mrs. Woodworth herself became apparently unconscious, the condition coming on very gradually. But the phenomena in her case presented a marked contrast to those of her hypnotized followers. Instead of the expressionless, cataleptoid state common in them, the leader's appearance was that of great exhilaration—ecstasy. The face assumed a peculiar, radiant expression; the eyes became fixed, while the body remained immobile in a dramatic position. Her condition at that time was described as pure ecstasy. Her appearance was so striking, so supernatural that it would have impressed anyone. It is not a matter of surprise that the more susceptible of her followers are able to see at such times an actual halo of light about their leader's head. She may possibly at other times have attacks of catalepsy or hystero-epilepsy, but this I was unable to determine. Mills[1] states that the three conditions are commonly associated in the same individual.

The woman, I believe, is a case of *religious monomania* (paranoia). Her early struggles; her visions of hell and heaven; her strong temptation at one time to commit suicide; the nature, character, and evolution of her delusions, transforming the ignorant country girl into the undaunted, direct agent of the Deity—all confirm this theory. The two prominent characteristics of paranoia, namely, personal egotism and a feeling of persecution, are prominent features in the character of Maria B. Woodworth.

History is full of examples of religious characters such as hers. Spitzka[2] says:

> "More than one insane fanatic of the middle ages has been responsible for the fierce campaigns waged against dissenters and alleged infidels, and not one of the least remarkable incidents of this period of history is the fact

[1] Pepper's System of Medicine, vol. v. p. 339.
[2] Manual of Insanity, p. 318.

that for two centuries Europe poured out its best strength in the Crusades, under the influence of the prayers, sermons, and visions of a Peter the Hermit, who undoubtedly suffered from this form of monomania."

Mills[1] describes a number of historical characters who, at times, would pass into the condition of ecstasy. Both Elizabeth of Hungary and Joan of Arc were cataleptics and ecstatics.

Gibbon's[2] description of the state of ecstasy as it occurred in the monks of the Oriental Church is classical.

The visions of Swedenborg and John Englebrecht were conceived during the ecstatic trance.

A notable case is that of Bernadette Soubirons, who, near a mountain stream of the Pyrenees, saw in the niche of a rock a female figure of great splendor, with an aureola about her head; her body also being very bright. She saw this vision a number of times, and believed it to be the Virgin Mary. The place has been made a shrine, and is visited by persons of all nationalities.

Cataleptic, ecstatic, hysterical, and allied manifestations in religious gatherings might be recounted at great length, but a few notable historical occurrences must suffice. The Buddhist fasts to render his body weak. He then fixes his eyes and thoughts intently on a single object, when he easily brings himself into the trance condition.

Often wonderful visions appear to subjects in the cataleptic state, and these are described to others.

The "dancing mania" occurred in 1374, principally in France and Germany. It is said that persons affected were unconscious, and insensible to pain, and that many beheld celestial visions. This epidemic was very widespread, the presence of one affected person being sufficient to excite the disease in a large crowd.

In the famous Kentucky revival of 1810 scores were prostrated at a single meeting. Some became cataleptic; others became possessed of a sort of "dancing mania" or "jerks." This latter manifestation was most remarkable. The body would sway violently forward and backward, the arms and hands striking out in any or all directions. The slave and his master, the delicate woman and the rugged backwoodsman, the preacher and his hearer, were alike affected.

The "jerks" appeared in Ireland about the year 1859, during the progress of a very remarkable religious movement. The manifestations were very similar to those of the famous Kentucky revival. Visions of various kinds were common, and thousands of persons were affected. An interesting feature noticed in many of the subjects was the appearance of stigmata on the hands or feet. For a description of those curious phenomena the reader is referred to the admirable articles of Hammond,[1] Clymer, and Mills.[2]

The reader of history—secular, medical, and religious—will find many more examples similar to those briefly referred to here.

These movements, or "jerks," of course, chiefly affect the neuropathic and hysterical or those predisposed to such conditions. Becoming more extensive the epidemic affects persons who are healthy, or at least who have enough mental and nervous stability to carry them through life, under ordinary circumstances, without abnormal manifestations of the nervous system.

Working upon religious feeling—the strongest in the human mind—is it to be wondered at that enthusiasts and religious monomaniacs have with their pseudo-religious fervor wrought such woful harm in the past? Who can estimate ultimate results in the way of hereditary transmission of nervous instability?

Laws governing the practice of hypnotism are now in force in Belgium, France, and Russia, and the writer hopes that efficient laws will soon be enacted in this country. An attempt on the part of Dr. Wellington Adams and myself to abolish the Woodworth meetings in St. Louis was futile, as there is no law by which that end could be attained. The cry may be raised by the unsophisticated and the ignorant that to forbid the Woodworth meetings would be a menace to religious liberty. To those we can answer that the law would not or should not permit the habitual use in religious exercises of agents, such as ether, chloroform, or opium, which will cause a person to lose consciousness. Neither should the use of a more subtle agent, such as hypnotism, be permitted. All these are universally recognized by physicians as exceedingly harmful in their effects when used habitually and indiscriminately, and by ignorant and unauthorized persons.

It should always be remembered that it is a serious matter to cause any person to lose his very *Ego*—through whatever agency.

The enlightenment of our age, and the scientific basis upon which hypnotism is beginning to rest, lead us to hope and believe that hypnotism as a factor in the hands of religious fanatics can never in the future do as much harm as it has done in the past.

Resignation.—Dr. George Strawbridge has resigned from the Chair of Otology in the University of Pennsylvania.

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[1] Pepper's System, vol. v. p. 340.

[2] Decline and Fall of the Roman Empire, vol. vii. p. 64.

[1] On Certain Conditions of Nervous Derangement. New York, 1881.

[2] Pepper's System, vol. v. p. 348.

SUPPURATION OF THE TYMPANIC ATTIC AND PERFORATION IN SHRAPNELL'S MEMBRANE.

BY B. ALEX. RANDALL, A.M., M.D.,

PROFESSOR OF DISEASES OF THE EAR IN THE PHILADELPHIA POLYCLINIC; OPHTHALMIC AND AURAL SURGEON TO THE EPISCOPAL AND CHILDREN'S HOSPITALS, PHILADELPHIA.

THE human drum-membrane is inserted into a grooved bony ring—the annulus or tympanic bone of the infant—which is incomplete above, where the auditory plate of the squamosa fills the gap between its anterior and posterior extremities or spines. This notch varies considerably in size and shape, giving considerable diversity to the appearance of the entire drum-head, but especially to the thin membrane which occupies it. This upper segment was first well studied by Shrapnell,[1] who described its "flaccid" character, and clearly differentiated it from the "membrana tensa" below, and it is now quite generally known by his name.

Rivinus had described, in 1689, an opening in this region (previously noted by Marchetti and others), and not a little controversy has raged as to the presence of a "foramen" at this point, Bochdalek and others claiming that it is a constant feature, although sometimes hard to discern; while some have almost denied its existence and insisted that it is rare and accidental. Hence the association of the name of Rivinus with this region, and the edge of the squamosa is often known as the "Rivinian margin" and an opening here as a "foramen Rivini." The embryological views of Huschke explained this opening as a colobomatous gap left by the incomplete formation of the drum-membrane across the bottom of the auditory canal; but modern studies have shown that no such formation takes place, since a complete septum between the external canal and the tympano-tubal fissure is present at all stages. While it is conceivable, therefore, that the foramen may in rare instances be congenital, since its bilateral presence has been associated with cleft palate and similar defects of growth, it is usually inexplicable on any such ground.

Within and above the flaccid membrane lies that portion of the tympanic cavity which lodges the larger upper portions of the malleus and incus. Leidy has brought into clear view the separate and variable character of this "recessus epitympanicus," and has most conveniently named it the "attic" in distinction from the other parts of the tympanum, the lower "atrium," and the posterior "antrum;" and Blake and others have shown the great variations in the bands within it, forming septa about the ossicles, as Politzer and Prussak had demonstrated the bands constituting the "pouches" in front of the neck of the malleus.

[1] London Medical Gazette, x. p. 120, 1832.

Crystallizing about this convenient name, "attic," much study has of late been given to the diseased conditions met in this locality; and the advocacy of the excision of the drumhead and ossicles in suppurative affections of the attic, has called for full investigation of the matter in all its aspects.

Moos seems to have been the first of modern otologists to describe (in 1864) suppurative perforation in Shrapnell's membrane, and a number of cases were figured by Hinton in his atlas (1874); but the studies of J. Orne Green (1874), Blake, Buck, Burnett, and Miller, in America, and of Politzer, Morpurgo, and Hessler, abroad, placed the subject in full view and left little for later students to add. Yet there are several points on which investigators are not in accord, and further study seems urgently called for; and as I have been directing attention to several of these of late, I beg leave to offer here the results thus far obtained.

The successful treatment of these cases is of course the special end of their study, and the questions of the origin, frequency, and seriousness of the lesions are of fundamental importance. If suppuration of the tympanic attic were rare, unimportant, or easily treated, much of the attention which has been given to it would seem misplaced; but there is evidence to show that it is by no means rare in aural practice, and I have elsewhere[1] given reasons for believing that aural affections constitute two per cent. or more of medical work. If not an element of much size in the practice of the physician, it makes up for it by its serious importance. It is not without cause that suppurations of the ear are bars to life insurance; and more often in these than in any others do we have caries just where the meninges are nearest.

The upper pole of the drum-membrane is often difficult to study owing to the narrowness of the canal or the configuration of its walls; and in any case the view is easily obstructed by flakes of epidermis, cerumen or inspissated discharge. Careful cleansing is often essential to the investigation of the Shrapnell membrane, and delicate and skilful manipulation of the probe and forceps is called for in order to clear the way. A considerable number of cases will then be found to present a depression of the membrana flaccida, with a clearly visible opening at its centre or a less certainly discernible foramen at the extreme upper margin. This is the so-called "foramen of Rivinus," and is met in about one out of five to ten cases. Its lack of physiological explanation has been already noted; while its persistence as a pathological perforation is readily comprehensible. Its symmetry and the lack of suppurative history may in some cases be cited in support

[1] Address in Otology, Transactions of the Pennsylvania State Medical Society, 1888.

of its congenital character; but any one who has seen much of ear-disease knows that the most interesting findings are often in the ear which the patient insists is not, and never has been, affected in any way, and will be a little sceptical as to the negative history. Most children have cried during an entire night with ear-ache, and timely study frequently shows in such a case a bulging or a perforation of the flaccid membrane. Cure is gained without sensible discharge, for only a single drop may have needed to be exuded in order to give immediate relief; so an otorrhœa is of course denied, as it sometimes is even when profuse. It seems a point worthy of note that I have rarely met these dry foramina in very young children; and I believe investigation would show them to be several times as frequent in adult life.

A further and more important point is clearly brought out by a routine study of the flaccid membrane. There is often a brownish scale covering the region and removable only with difficulty; and study will at once show that it is not cerumen, as may have been expected (the ceruminous glands do not extend thus far in), but a leathery crust similar to those formed in the nose. The exposed surface of the upper pole will be found red, perforated, and with a trace of moisture in the opening, barely enough to be wiped away, yet sufficient to renew the crust in a few hours. Opinions may differ as to whether these are to be regarded as cases of suppuration of the attic, since the scanty flow is of mucus rather than pus and some secretion is of course merely physiological; yet any extended observation will dash the hopes of anyone who expects these cases to remain quiet and innocuous. Sooner or later, upon slight occasion or without any really appreciable reason, an exacerbation will almost always take place that is unmistakably a suppuration of the attic. It is further noteworthy that the probe will detect bare surfaces of bone even in some of the dormant cases, the rough areas being usually either on the neck of the malleus or on the Rivinian margin. In not a few instances the loss of substance is not confined to the membrane, and a considerable opening will be found, due to loss of the bony margin, which exposes the head of the malleus if this be present, and opens the attic to view. Polyps, granulations or pearly masses of epithelium may fill the opening, and pus of a sickening odor be present in an ear that gave to the casual examination no evidence of disease.

So much for the external appearances in these cases. Within the tympanum important conditions are often present. If by any means the drum-cavity is inflated, there may be evident action upon the membrana tensa, and yet no perforation-whistle or other sign of exit of air through the opening at the upper pole. The intra-tympanic syringe may be vigorously used without carrying a drop of fluid to the pharynx through the Eustachian tube, although this may promptly result from injection into a lower opening in the same case. Morpurgo found that the air passed freely out through the normal flaccid membrane when incised; but could not be passed again until the engorgement due to the little operation had passed away. The reason for these things, as also for the limitation of disease to this small portion of the tympanum, has been well given by Blake and others who have minutely investigated the anatomical relations of these parts. Besides the ligaments of the ossicles, so well described by Helmholtz, numerous variable folds of mucous membrane are present, especially in this part of the cavity, which form septa dividing the area into more or less isolated compartments. From these the drainage is limited, yet usually sufficient; but it needs only a slight congestive thickening of these septa to close the avenues of escape for any retained secretion. Such a pouch was long since well described by Prussak as fairly constant between the flaccid membrane and the malleus neck. Politzer showed a series of such cavities in some of his preparations, while Kretschmann has shown that the form varies greatly, yet regards as most usual a pouch larger than that described by Prussak, and bounded within by the incus and its articulation with the malleus, as well as by the neck of that ossicle.

These isolated portions of the tympanum share in any inflammatory process, however caused, but they not infrequently fail to share in the resolution which may promptly take place below. The congestive occlusion of the Eustachian tube may be but transient, and the atrium recover its normal drainage before retained secretion has forced its way through the drum-membrane; but the attic, or a portion of it, be left congested and distended. Resorption or caseation of the secretion may follow; but resolution is apt to be imperfect, and a focus of future trouble formed.

The peculiar character of tympanic inflammations must not be lost sight of. The drum-cavity is lined with a delicate mucous membrane, readily involved by continuity in the catarrhal affections of the pharynx and nares, yet its inflammation is not a simple catarrh. It constitutes the periosteum of the ossicles and bony walls, and all except the superficial inflammations have some of the nature of a periostitis. Hence the ease with which caries can result from affections primarily catarrhal, for ulceration of the mucous membrane means denuding of the subjacent area of bone. The presence of a cheesy mass of retained secretion in contact with the neck of the malleus can hardly fail to be detrimental to the bone, and it is not surprising that lesions at this point are not rare.

Another fact in the anatomy explains the peculiar vulnerability of the Rivinian margin. The external part of the attic overhangs the auditory canal and is separated from it by only a thin wedge of bone dependent for its nutrition upon the mucous lining within and the delicate cutaneous covering without. These are the direct continuations of the flaccid membrane, are generally involved in its inflammations, and are all too ready to leave unnourished this thin *scute* to undergo caries or necrosis. Further, the suppurative process within the attic can gain partial exit at this point and burrow out sub-periosteally along the auditory canal, to form abscesses behind, before, or above the ear, sometimes involving most of the side of the head. The mastoid may be wholly uninvolved in these cases, although the abscess be on its outer surface; and a delicate probe may show that the fistulous track leads directly to the Rivinian region.

Inflammation of the tympanic attic probably occurs in almost all cases of otitis media, and in the larger number of cases shares the fortune of the general condition. Yet in a considerable group, conditioned doubtless by the anatomical variations above noted, the affection runs an independent course in the upper cavity. Shut off by the swelling of its lining from its usual communication, its pent-up secretion finds an exit through the thin, flaccid membrane, sometimes bagging it down into a long, polyp-like sac before rupturing it. Whether perforation of the membrana tensa, or even its total destruction, has previously taken place, matters little; the obstacle to drainage is above it, and even the total removal of the drum-membrane and malleus may not afford the requisite freedom of outlet. Drainage is usually bad, so that the ossicles and bony walls are extremely likely to suffer in the chronic cases. Treatment is difficult because access is imperfect; and the location of the process immediately below the meninges does not add to the comfort of the surgeon having such a patient in charge. Serious results are not uncommon; and without that, the exasperating obstinacy of many of these cases and their tendency to recurrence give them a most unwelcome reputation among aurists.

Part of this notoriety is hardly deserved. The bad cases are very bad; but there are many of less intense perversity and malign character, which are often earlier stages of the same condition, but much more amenable to treatment if promptly recognized and combated. Here lies almost all of what the writer can add to the previous contributions upon the subject. These attic inflammations with perforation in the Shrapnell membrane are not rare. Walb noted twenty cases among the 1231 patients of one year at the Bonn clinic; and Bezold, in Munich, eighty-eight among the 8227 patients seen in six years. In like manner at least fifty cases have been met by the writer among somewhat less than 2000 new patients treated during the past twenty months, although this record is probably incomplete. Numerous instances of dry perforations in this location, and of suppurations, suspected but not definitely proved to belong to this category, could be cited; but it is safer to accept the minimum figures, as they are sufficient to prove the frequency of the lesion. In point of fact, fifteen cases were met among the 500 seen in the first half of 1889, twenty-three among some 600 in the similar period of 1890, and seven among 100 patients in August, 1890, the periods during which strict records were kept. Only five were *noted as such* in my records for the latter half of 1889, although it is almost certain that more were seen; so I was prepared to admit that the earlier half of the year might show more cases, at least of the recent lesion. But this August experience would hardly bear out such a view.

The detailed histories of the cases seen in the first half of 1889, with five, previously noted and sketched, were presented at the meeting of the American Otological Society of that year; and the additional cases met up to July, 1890, were brought forward in the same place this year. Repetition of them here is quite needless. It may be well, however, to cite some details of a recent instance of the affection, in order to make clear some of their varying clinical features.

The certain recognition of the condition in question was made in this latest case only as these lines were being written.

Mr. H. P. was sent to me by Dr. Charles K. Mills, on August 26th, suffering with pain that for several nights had prevented sleep, accompanied by slight discharge from the left ear. Suppuration had been occasionally noted for several years, but the absence of any severe symptoms had led to neglect, since the hearing was little impaired except when the canal was clogged with discharge. A large polypoid mass was found growing from the upper wall of the canal about half way out and preventing any view of the fundus. Its removal was painful and had to be divided between several sittings, as the patient's endurance had been much reduced by his sleeplessness and sufferings; and the sinus around which, as usual, the mass had grown has not yet been followed to the uncovered bone which without doubt lies beyond it. The hearing was almost normal when the canal was cleansed, but the character of the lesion was suspicious, and the imperfect glimpses obtained of the Rivinian region increased the suspicion.

On September 5th the obstruction was so far removed that study became possible, and a considerable opening above the short process of the malleus was distinctly seen and the probe discovered carious bone within the attic. Intra-tympanic syringing with peroxide of hydrogen gave pain enough to

limit its employment somewhat, yet brought away much pus and cheesy secretion from the opening. The lower membrana tensa is thickened, somewhat opaque and macerated by the pus which has bathed it, but the hearing remains nearly normal, a fact which, however curious, is by no means unusual, although some authorities state the contrary. The patient has been quite comfortable since the first treatment, except for several hours after a deep cauterization with chromic acid, and has been able to attend to his work. He is satisfied with his condition, as well as with his progress, and is likely to demur decidedly if the caries of the malleus proves so considerable as to call for the excision which is becoming rather fashionable.

It seems here in place to comment upon the operation of excision of the malleus and drum-membrane, in cases such as these, of which Dr. Sexton is the most ardent American advocate. It rests upon the rational idea of removing carious bone and endeavoring to establish free drainage from the attic. The operation, though delicate, is not very difficult; but may be tedious from obstruction by bleeding. The tendon of the tensor tympani is first cut by a needle curved on the flat introduced close behind the short process and pressed upward until the slight snap of the tenotomy is felt and the malleus handle is found to move more freely outward. The drum-membrane is then divided around the periphery with a suitable knife and the malleus extracted by means of a snare loop around the handle. This last may prove difficult, as the placing of the loop is apt to be obscured by the bleeding, and the traction must be made inward as well as downward, lest the ossicle be broken through the neck. Probably the incus should be extracted before the malleus, as it is wholly useless in the absence of the first ossicle, and may, like it, be carious. Its disarticulation from the stapes must be delicately done, since dislocation of this last ossicle seriously imperils the hearing. As renewal in some fashion of the drum-membrane generally takes place, it is wise to carry the excision to the extreme periphery up and back, in the endeavor to prevent closure here by removing a part of the tendinous annulus. A portion of the chorda tympani is usually resected in such a case; but healing quickly follows, and the loss of taste on that side of the tongue is often unnoted by the patient during its brief duration. Little reaction is to be expected if proper cleanliness is observed—as an antiseptic the peroxide of hydrogen may be used in conjunction with styptic injections of hot water.

Such is the operation long in use by Schwartze and others, and of late most enthusiastically advocated, by Sexton especially. Its minor details are varied to meet individual preferences. It would seem to have given, in many instances, practical fulfilment of its theoretical value, but has yet to gain any wide acceptance among aurists. In the three cases of suppuration in which I have practised it the value was almost nothing, since the caries involved the Rivinian segment as well as the ossicles. Drainage seemed not appreciably improved, and in one case a new sinus formed above, while the suppuration continued freely from the lower opening.

In the less severe cases the process may often be brought to a halt by less radical measures; and while this cessation had best be esteemed as merely a hollow truce, it has been found to persist for two years or more in some cases, which is as much as can often be claimed for the operation at its best. The danger of these conditions naturally seems small to a patient who has had a suppuration for years that gives him little inconvenience; and, as before stated, the hearing may be practically normal and more likely to lose than gain by the operation. Consent to surgical interference may be wholly refused, and is apt to be accorded only in the worst cases. In these the results are not likely to prove brilliant; and while I expect to offer the interference to some of my patients, and even to urge it upon a few, it will be with no expectation of striking results or rapid cures. The cases in which these are at all possible, are those in which caries is limited to the ossicles and can be eradicated with them; and unless the diagnosis of such limitation can be made with much more certainty than is usually possible, the prognosis had better be a guarded one. Where the hearing is much affected and the presence of caries of the ossicles has been established, the chances of improved hearing and greater accessibility to the diseased structures speak in favor of the operation, since it is attended with little danger.

For the majority of cases the most thorough possible cleansing constitutes the best treatment. This will require painstaking care and some little skill, as the opening is apt to be too small to admit fluid except when the syringe-tip is carried directly into it. Enlargement of the perforation should be made when much difficulty of this kind is met, any granulations should be snipped off with the snare or forceps, and rough, bare surfaces of bone should be rubbed with the cotton-tipped probe in order to detach spicules and excite reparative inflammation. A long-nozzled syringe must be used in order to secure the needed penetration of the fluid—that of Blake serving admirably, although I use by preference a large lachrymal syringe with the hollow probe known as de Wecker's canula. The canula commended by Schwartze and Hartmann is generally too clumsily made and the curve at its extremity is oftener a danger than an aid. The delicate glass canula of Buck can be made by anyone at all skilled in working glass, and used with the fountain-syringe

or a bulb-syringe worked by the patient, will do excellent service. It need hardly be reiterated that full illumination by the forehead mirror is essential to these manœuvres, which require a full view of the affected region, and generally the use of both hands.

In this connection it may be remarked that the construction of most forehead mirrors is very faulty in giving too limited a range of movement, and that one with a *double* ball-and-socket joint is far superior to that with the single, and enables the surgeon to get good illumination under the most difficult circumstances. The mirror may be brought very close to the eye, and looking through a large sight-hole, the advantages of central illumination may be combined with entire freedom from interference with binocular vision. The left hand may be used to make traction upon the auricle, draw forward the tragus and at the same time furnish a rest for the syringe—a very important item in the use of a piston-syringe.

The peroxide of hydrogen is probably the best fluid for intra-tympanic use, the twelve-volume solution being diluted with three to six volumes of hot water. Dizziness is but little more common under these measures than in the simple syringing of the canal, and can generally be avoided by gentleness and a proper temperature. The great value of the peroxide lies in its power to oxidize rapidly any purulent matter with which it comes in contact, and the resulting evolution of gas distends the cavity, forces the fluid into its remotest recesses and also aids in its evacuation. As this frothing, if active, may be disagreeable to the patient, the dilution is advisable, which also secures the desired warmth of the fluid. The delicate cotton-carrier will do good service in clearing the way before and after the syringing, and delicate forceps often are useful in removing detached flakes of epithelium, etc. The air-douche has but limited value in these cases, as before noted; yet it should generally be employed as a possible aid to the cleansing—due attention being paid, of course, to the naso-pharyngeal condition.

Numerous fluids have been employed topically in these attic suppurations with doubtful benefit. The nitrate of silver has undoubted value, but its employment is not free from risk except in weak solution, as is also the case with the mineral acids, which are credited with power to hasten the removal of dead bone. Boric acid in powder may be dusted into the opening or injected as a saturated solution, serving probably as well as any of the antiseptics accredited with more potency to keep the cavity sweet in the intervals of the cleansing.

Good results may be expected from this treatment in all the recent cases, and even among the chronic and carious affections gratifying improvement is common. Apparent cures may be quickly gained, yet relapses must be looked for in most of them, and the prognosis in the intractable cases is grave. In one of the patients reported in 1889 the attic affection remained in abeyance for some ten months, and started up only after a cold-taking which caused acute inflammation of both tympana. The caries of the malleus-neck and the growth of granulations from the Rivinian margin recommenced, and were slow in yielding to treatment, as they had also been slow to renewed activity.

The point to be especially insisted on in these, as in most aural suppurations, is the necessity of most painstaking cleansing at all times, in order that first the exact condition of matters may be recognized as promptly and clearly as possible, and second that the treatment may be applied, not to the exfoliated products of the inflammation, but to the affected tissues themselves. Thus only can we learn what we are dealing with, make sure that we are actually utilizing the measures undertaken for its relief and fairly compare the effects of various applications. It can be confidently predicted that the instances of attic suppuration with perforation in the flaccid membrane will be not infrequently met, under these circumstances, and that the shortcomings of the conservative treatment, properly applied, will not be found as great as the advocates of excision are inclined to claim. The serious, intractable cases will be found rather in the minority, since they will be attacked in the earlier stages; and the operative interference, confined to the instances which really require it, will be able to show its actual value in the cases not amenable to less radical measures.

Study of my fifty cases shows that all ages, from three to sixty-nine years, were represented, and that ten of the patients were less than ten years of age, while twenty-one were in the second decade. The perforation was in Shrapnell's membrane alone (as in Fig. 1) in twenty-three instances, being supplemented by a second opening or a cicatrix (Fig. 2) in the lower portion of the drumhead in a little more than one-half the cases. Polyps of notable size were present in almost a half, and caries was discovered in nearly as many. Destruction of the Rivinian margin (as in Figs. 6 and 8) had occurred in five cases, and loss of the malleus, and probably of the incus, in the same number. In one, the latter ossicle alone seemed to have been lost, and through the thin cicatrix which promptly formed in the posterior opening, the stapes and stapedius tendon could be plainly seen (Fig. 7). The perforation was usually in the central part of the flaccid membrane, above and before the short process, as in Figs. 2, 4, 5 and 7, less often involving the posterior part, as in Fig. 3 and to a less extent in Fig. 1.

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

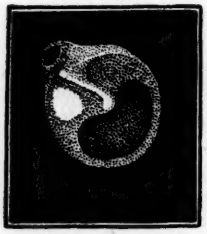

FIG. 6.

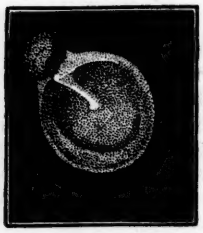

FIG. 7.

FIG. 8.

The results of treatment cannot be fully and accurately stated. In fifteen of the patients the suppuration was brought sooner or later to a stop; and this apparent cure is known to persist after periods varying from two to twenty months, sometimes in spite of conditions which have set up suppuration of the other ear. For these it is fair to claim cure, with little reserve. In seven cases, on the contrary, the condition is known to be as bad as when first seen—in two of them, in spite of excision of the drum-membrane and ossicles. For the remainder, including the recent cases which are still under care, moderate success can be claimed. Many of them passed out of view apparently cured, but the maintenance of this condition cannot be asserted. Others were more or less improved, but uncured, when they ceased attendance. It can at least be urged, then, in favor of the less radical treatment that it rarely fails to bring about marked and often permanent improvement; and although recurrence of the trouble is common and always to be anticipated, that it may be rare and slight and with long intervals of immunity and apparent health.

MALIGNANT ŒDEMA.

(Gangrenous Emphysema; French, "Gangrene Gazeuse.")

BY K. HOEGH, M.D.,
OF MINNEAPOLIS, MINN.

A GIRL, eleven years old, was brought to me late on the night of June 28, 1890, with the history that, on June 25th, she had stepped barefooted on a nail in a barn, the floor of which was covered by manure and stable-soil. The nail caused a punctured wound of the right foot, about two inches behind the head of the second metatarsal bone. She complained of severe pain; there was very little bleeding, but the pain steadily increased, so that her sleep was disturbed. On the next morning the foot was considerably swollen, and there was marked redness of the dorsum and toes. During the second night her sleep was much more disturbed, and the pain increased to such an extent that she was in misery the whole day. The night of the 27th there was no sleep, and at three o'clock in the morning, about sixty-five hours after the injury, her mother noticed that the toes were "white as lard," cold, and insensible. Later in the day they were black. After a railroad journey of nearly one hundred and fifty miles, the child was brought to me, about eighty hours after the receipt of the injury. The foot was then black and gangrenous up to the tarsal bones. There was no suppuration, but small gas-bubbles were present; there was considerable œdema and a purplish discoloration up to the ankle, and above that streaks, as of lymphangitis, along the inner side of the leg, and some mottled redness in spots over the lower part of the leg. The original wound could not be seen. Her pulse was 120; temperature 101°. There was great pain; her mind was not quite clear, and she was in a condition suggesting collapse. As it was late, and I was not quite sure of the nature of the case and of the proper treatment, she was put to bed in St. Barnabas Hospital, with no other local treatment than elevation of the leg and permanent irrigation with an antiseptic fluid; whiskey was given, and also a hypodermic of morphine.

She passed a miserable night, and on the morning of the 29th her temperature was 103°; pulse very rapid. The gangrene had extended as high as the malleoli, and the œdema had reached to about two inches below the knee. In the presence of Drs. H. E. Holmes and E. Wood, house-surgeons to the hospital, and with their kind assistance I amputated the leg at the lower third of the femur, about four days and

four hours after the receipt of the injury. Careful antisepsis was observed, and the wound was drained with iodoform-tampons.

The amputated limb was carefully examined; the foot was black, as that of a cadaver that had been for a long time in water, and the epidermis came off like a glove. The corium was moist. Upon incising the foot no pus was found, but gas escaped. There was crackling, as of lung-tissue, when the soft parts were cut into. The track of the punctured wound was found; it was filled with a black coagulum. The œdema above the gangrene was very firm. Large quantities of greenish serum escaped after cutting into the leg. Here and there, over the gangrenous parts and the neighborhood, were large bullæ filled with a limpid fluid.

Two rabbits were inoculated with the serum and the contents of the bullæ, but, as their subsequent history proved, with no effect upon their health.

The night after the operation there was still some pain, but the patient was perfectly conscious. Her lips, as well as the skin generally, had a peculiar dusky appearance, which the mother declared was not the patient's natural color. She improved during the day; toward evening her temperature was 100°, pulse 90, pain less. From the next day recovery was uninterrupted. In about three weeks the patient went home well, and with a healed stump.

This case was diagnosed as one of malignant œdema or gangrenous emphysema (*gangrène gazeuse*), a disease of not very common occurrence. The characteristic signs and symptoms of this disease are a rapidly spreading gangrene, with the development of gases in the soft tissues, with no putrid smell, at least in the beginning, before contamination with putrefactive germs, and no formation of pus, but with marked constitutional intoxication manifested by fever and great depression of the nervous system. The local process goes on with rapidity and the constitutional symptoms increase *pari passu*. A case formerly observed by me terminated fatally on the sixth day. In the case described above the constitutional symptoms promptly disappeared after removing the infected limb.

The disease depends upon the presence of a specific bacillus, the bacillus of malignant œdema, which is described in Baumgarten's *Lehrbuch der pathologischen Mykologie*, 1890, from which the following notes are largely extracted.

In 1877 Pasteur described the bacillus under the name of *vibrione septique*, but the first complete and accurate description was given by Koch in 1881. The bacillus is, morphologically, very similar to the anthrax bacillus, with which it seems that Pasteur confounded it, but it has very distinct characteristics. It is more slender, the ends are rounded, and the bacilli are joined together in a somewhat different manner. It is further distinguished from the anthrax bacillus by having a spontaneous motility, a quality not belonging to the anthrax bacillus, as is well known. There are also differences in the spore-formation and in the behavior of these two bacilli in culture-media. The bacillus of malignant œdema is strictly anaërobic, and cannot live in the presence of oxygen. Biologically and pathologically, it is nearly allied to the tetanus bacillus, and like the latter its natural habitat is in the soil, especially in rich soil. It is very widely distributed, but it is questionable if it is found in uncultivated soil. It is found in the upper strata, but not on the surface, because it does not thrive in the presence of light and air.

Garden-soil seems to be particularly rich in these bacilli, just as it is in tetanus bacilli. Accidentally, they are taken into the animal organism, but do not produce spores during the life of the animal. After the death of the animal they multiply in the body. Like the tetanus bacillus the œdema bacillus not uncommonly invades horses, usually with fatal effects.

Pure cultures of this bacillus, when inoculated in animals, produce an extensive œdema, but do not produce gaseous gangrene. Inoculation with garden-soil, however, produces gaseous gangrene, probably owing to the simultaneous inoculation of the "pseudo œdema-bacillus." Nearly all domestic animals, mice, guinea-pigs, and rabbits are susceptible to these inoculations; only the cow seems to be exempt. To produce the disease the inoculations must be subcutaneous, as surface-wounds cannot be infected, and the quantity used must not be small. Injections into the bloodvessels give negative results.

After inoculation the œdema is apt to spread to the deeper parts, and unlike the anthrax œdema, is sanguinolent, not gelatinous. Inoculated animals occasionally survive, and the inoculation produces a decidedly less malignant infection than that caused by the anthrax bacillus. If an animal is killed and examined immediately, the bacilli are found only in the œdema of the superficial parts, never in the blood; thus resembling also in this the tetanus bacillus, and differing from the anthrax bacillus. A further similarity to the tetanus bacillus is the fact that one attack of the disease does not produce immunity against new infection.

If animals are inoculated with garden-soil malignant œdema and tetanus are common results, but the longer the earth has been dried the less is the probability that it will cause malignant œdema. The tetanus bacillus, however, or its spores, will retain their virulence in dry earth for almost an unlimited period.[1]

The so-called "pseudo œdema-bacillus" is commonly found accompanying the œdema bacillus, both in soil and in infected animals. These bacilli are, morphologically and biologically, easily distin-

[1] Faber on Tetanus. Copenhagen, 1890.

guished from each other; the pseudo œdema-bacillus is anaërobic, and produces a gas, owing to its strong fermentative qualities. It seems probable that, biologically, these two bacilli may be to some extent dependent upon each other; for instance, by creating products of mutual benefit. Their strongly anaërobic qualities seem to make such an assumption possible.

Experiments in regard to the resistance of these bacilli and their spores, to our usual chemical antiseptics may have been made, but, if so, their results are not generally known. The experiments of Faber[1] prove that the tetanus bacillus is not destroyed by five-per-cent. carbolic acid solution nor by a 1-to-1000 sublimate solution, but only by heat.

Thus we have an explanation of the fact that punctured wounds have always been considered dangerous; we know now why such wounds, if they are infected by earth or by dust from the soil may be followed by tetanus and malignant œdema. Sufficient disinfection is not only difficult, owing to the narrowness and depth of the wound, but also to the fact that at least one of the bacilli which lurk in the soil is unusually resistant to chemical antiseptics. Hence, it becomes our duty to treat each punctured wound, which may be thus contaminated, in the most radical manner. After producing artificial anæmia by means of Esmarch's apparatus, the wound should be laid freely open, when it can then be seen and examined to the bottom. After removing foreign bodies, thorough cauterization with a galvano-cautery or hot iron is recommended, then ordinary antiseptic dressings. If tetanus develops experience has proved the inutility of amputation; but in a case of malignant œdema we should not hesitate to sacrifice a limb, as amputation may save the life of the patient.

MEDICAL PROGRESS.

The Treatment of Phthisis with Boric Acid.—For five years DR. GAUCHER has been studying the action of boric acid on pulmonary tuberculosis. He at first determined by means of experiments on animals the toxic limits of the drug, which he found to be in the ratio of about fifteen grains to each two and one-half pounds of the body-weight. He also found that it was eliminated rapidly by the kidneys, and that there is little danger of its accumulating. It is also eliminated by the lungs, and can be found in considerable amounts in the sputum of patients who are taking the drug.

Some of his experiments are interesting, and should encourage a careful trial of boric acid in the treatment of phthisis. For example, he injected with a hypodermic needle a few drops of a pure culture of tubercle bacilli into the lungs of several rabbits. In this way he set up a local tuberculosis, which soon became caseous, but not generalized. Some of the animals died from pulmonary tuberculosis, others were killed, and in all pulmonary phthisis was found at the autopsy. He then repeated the inoculations on healthy rabbits, but fed them on bran mixed with boric acid. After a time these animals also were killed, but in all the lungs, as well as the other organs, were quite free from tuberculosis.

As to clinical results, treatment with boric acid caused a notable diminution in the expectoration, which became more fluid and less purulent. Considerable time is, of course, necessary before the final results can be determined, but in the cases under observation it may be said that they improved in every way, while the tubercular disease in the lungs seemed to be at a standstill. The amount administered in these cases was fifteen grains, in divided doses, in twenty-four hours. As a rule, it will be found not to disorder the stomach, and in some of Dr. Gaucher's cases it seemed to check diarrhœa. As it has no disagreeable taste it is easily taken.—*Lancet*, August 16, 1890.

Antiseptic Treatment of Scarlatina.—According to the Paris correspondent of the *Archives of Pædiatrics*, PROFESSOR HUTINEL has endeavored to determine the cause of the various complications of scarlet fever. His studies lead him to believe that these complications are due to secondary infection, and that the causative germs enter through the pharynx. If these hypotheses are true, the first indication in treatment is disinfection of the pharynx, and on this principle Dr. Hutinel has treated a number of cases with good results. As children cannot gargle, he uses irrigation by means of a large enema-syringe, through which a three-per-cent. boric acid solution is injected into the pharynx several times daily. He is careful to use a separate canula for each patient.

In addition to this, the throat is cleansed by mopping with a cotton tampon saturated with borated glycerin, and a few drops of borated vaseline-oil are dropped into the nostrils several times each day. The diet is confined to milk alone.

In 35 cases of scarlatina treated in this way there was 1 death. As to complications, 6 of the cases had albuminuria, 1 had rheumatism, 1 pleurisy, 1 otitis, and 1 diphtheria, but all the complications were promptly cured.

Creolin as an External Application in Inflammation.—STAFF SURGEON V. KOBYLECKI (*Wiener medizinische Presse*, August 17, 1890) writes enthusiastically of creolin as an external application in inflammation from various causes. In a case of fracture at the ankle, which, when it came under his observation some hours after the injury, was ecchymotic, and very much swollen, applications of creolin in water reduced the swelling in four days. Since then he has used creolin-water in all cases of inflammation of the joints resulting from contusion or sprain, saturating the dressings every two hours or oftener, and always with good results.

In orchitis and epididymitis the applications are also of great benefit, and diminish the duration of the disease. In these affections the patient should remain in bed with the scrotum elevated, and should paint the latter once daily with pure creolin until recovery ensues. No other

[1] Loc. cit.

treatment is necessary, and, unless the application is made too often, no irritation is produced.

Hypodermic Injection of Bichloride of Methylene in Typhoid Fever. Hypodermic Injection of Chloroform in Strychnine-poisoning. — In *L'Union Médicale*, August 19, 1890, MARTINEZ reports from Zapateca, in the Republic of Colombia, the following interesting cases. In the first, tetanic contractions came on during the course of typhoid fever, and were cured by the hypodermic injection of bichloride of methylene; and, in the second, poisoning by strychnine was relieved by the hypodermic injection of chloroform.

A man, aged twenty-two years, of a strong, robust constitution and sanguine temperament, was attacked with a low form of typhoid fever complicated by well-marked tetanic spasms associated with trismus, the contractures affecting the upper and lower limbs and the muscles of the body, and being accompanied with constipation and retention of urine. The attacks came on at frequent intervals and lasted about five minutes. Dr. Martinez had recourse at this time to hypodermic injections of bichloride of methylene, giving from twenty to thirty minims. After the first injection there was appreciable improvement. The use of the bath to control the temperature, and the application of affusions to the nape of the neck to diminish congestion and relieve pain in the head, were also followed by favorable symptoms. The patient was given, in addition, bromides and chloral to allay pain and nervousness. He took his nourishment well, and passed a comfortable night. Soon afterward he had a copious movement from the bowels, and passed urine freely. Rapid convalescence set in and the cure of the entire attack ultimately resulted, the chief cause of relief being, in the author's mind, the use of the hypodermic injections, without which the convulsions would have killed the patient.

In the second case, one of strychnine-poisoning, a man, about twenty-eight years of age, married, but separated from his wife, for various reasons became desperate and resolved to attempt suicide by the use of strychnine. A quarter of an hour afterward he confessed to having taken the poison, and was immediately put to bed. The convulsive movements became severe. The treatment consisted in the hypodermic injection of fifteen minims of chloroform, followed by washing out of the stomach. Recovery ultimately took place, and, although at one time bromide of potassium and chloral were freely used, the reporter believes that the chloroform was the principal agent in producing a cure.

Chloroform Liniment.—

℞.—Chloroform	4 ounces.
Camphor	1 ounce.
Fluid vaseline, sufficient to make	8 ounces.

Dissolve the camphor in the chloroform and then add the fluid vaseline. Of course, the amount of vaseline may be varied according to the strength of the liniment desired. It is said that this makes a much more useful application than chloroform liniment made with olive oil.

Gunshot Wounds of the Stomach and Intestines.—SENN (*Journal of the American Medical Association*, September 6 and 13, 1890), in a valuable paper on gunshot wounds of the abdomen, draws a number of conclusions, of which the following are the most important:

1. In gunshot wounds of the abdomen, in the absence of fæcal extravasation or prolapse of the omentum, it is absolutely necessary to determine whether penetration has taken place, by enlarging the wound.

2. Absence of visceral lesions requiring abdominal section is most frequently met with in perforating gunshot wounds of the abdomen if the wound of entrance is at or above the level of the umbilicus, and if its course is antero-posterior.

3. In transverse and oblique gunshot wounds at a point below the level of the umbilicus, multiple perforations of the intestines are extremely probable.

4. The general and local symptoms, with the exception of external fæcal extravasation, are absolutely of no value in the differential diagnosis between simple penetrating gunshot wounds of the abdomen and those complicated by visceral lesions.

5. Dangerous internal hæmorrhage caused by perforating wounds can be recognized by the symptoms of acute anæmia and by the physical signs of fluid in the peritoneal cavity, and such symptoms and signs are positive indications for abdominal section.

6. After opening the peritoneal cavity for the treatment of hæmorrhage, temporary hæmostasis should be secured by digital compression of the aorta, or by packing with sponges, until the bleeding points can be found.

7. Wounds of the stomach and intestines large enough to permit the escape of the contents of these organs can be infallibly demonstrated by the hydrogen test before the abdomen is opened.

8. Direct distention of the stomach through an elastic tube is preferable to rectal insufflation, when it is probable that the stomach is wounded.

9. Thorough insufflation, without evidences of free tympanites or escape of gas through the external wound, proves either the absence of perforations, or that, if present, they are too small for leakage to take place, and is a strong argument in favor of non-interference.

10. The hydrogen test should invariably be used in searching for perforations after the abdomen is opened, as this test makes extensive eventration unnecessary, and never fails to reveal every perforation.

11. After the lowest perforation has been discovered by rectal insufflation, the succeeding tests should be made through the perforations, and the external wound should never be closed until the entire gastro-intestinal canal has been tested.

12. The hydrogen test ordinarily does not cause fæcal extravasation.

13. By following the indications furnished by the test the surgeon relieves himself of all medico-legal responsibility in the operative treatment of gunshot wounds of the abdomen.

14. The closure of bullet wounds of the stomach and intestine is accomplished most speedily, and with a sufficient degree of safety, by one row of interrupted sero-muscular sutures of fine aseptic silk. The operation should be undertaken as early as possible.

15. If enterectomy is unavoidable, the continuity of the intestinal canal should be restored by making lateral

anastomosis between the closed ends by means of decalcified, perforated, moist bone-plates.

16. Flushing of the abdominal cavity is to be reserved for cases in which the peritoneum has been contaminated by the escape of the contents of the stomach or intestines.

17. Drainage is necessary if the peritoneum has become infected, and in wounds of the kidney, spleen, or pancreas not treated by partial or complete extirpation. Also in wounds of the liver.

18. The necessary diagnostic skill and manual dexterity in the operative treatment of gunshot wounds of the stomach and intestines can be acquired only by experiments upon the lower animals.

Intravenous Injections of Quinine in Malaria.—BACCELLI publishes (*Berliner klinische Wochenschrift*, June 2, 1890) an interesting communication on the intravenous injection of quinine in malaria. Believing that if the specific medicament was brought into direct contact with the blood-cells the destruction of the parasite would be accomplished more quickly and more permanently, he undertook a series of investigations to determine the following points:

1. The minimum dose which is required for complete and permanent cure.

2. The proper moment for the use of the medicament to prevent the paroxysm, to restrict it as much as possible, or to prevent a return.

3. The histological modifications brought about in the blood, already altered by the infection, through contact with the medicament.

In medical literature he found no example of injection of quinine into the vessels for therapeutic—that is to say, for antimalarial—purposes, although many physiologists had practised this expedient for purposes of investigation. The latter had, however, used acid solutions, and the author's investigations upon animals led him to believe that such solutions are extremely dangerous. Under these circumstances he employed a neutral solution of quinine hydrochlorate in distilled water with the addition of sodium chloride, to obviate the destructive action of the water upon the red blood-cells. The formula is as follows:

Quinine hydrochlorate	1.00 gramme	(15 grains).
Sodium chloride .	0.75 "	(11½ ").
Distilled water . .	10.00 grammes	(2½ drachms).

This solution is perfectly clear if employed lukewarm.

Having ascertained from repeated experiments that doses of five and ten centigrammes were perfectly harmless to guinea-pigs, the author employed the same doses upon man. After the veins of the forearm had become turgid, as the result of compression with a circular bandage above the elbow, he injected the solution with a Pravaz needle, inserted from below upward into the interior of one of the smallest veins, and immediately removed the bandage. The most rigorous antisepsis was observed, the solution being filtered and again boiled. The injection was made slowly, in order to observe that no swelling of the subcutaneous tissue took place, and, therefore, to be sure that the needle was in the interior of the vessel. The point of puncture was closed with collodion.

With the exception of one case, in which a number of abscesses developed, no injurious local effect resulted in any of the experiments. In two cases, in which the needle was not properly inserted into the interior of the vessel, and in which the solution was therefore partially injected into the subcutaneous tissue, there was œdema of the arm, but no other evil consequences. With doses of from ten to thirty centigrammes, no noteworthy physiological effects were observed. After the employment of from thirty centigrammes to one gramme, in three cases some of the characteristic symptoms of quinine intoxication immediately developed, namely, bitter taste, vertigo, loss of consciousness; at first a small and infrequent, afterward a fuller and slower, pulse-beat; and coldness of the skin. In general this condition disappeared in from fifteen to twenty minutes. In but a single case was cardiac weakness prolonged for several hours, so that the employment of cardiac stimulants became necessary. The usual dose of the quinine solution was from forty to sixty centigrammes. The results were good in so far as that, in many cases, the fever was at once brought to an end; and, if this were not done, there was always produced a diminution of the temperature succeeding the injection, frequently as much as 2° C. With doses of one gramme, in none of his patients was there a genuine recurrence of the attack under eight days. The author believes that when there is no idiosyncrasy against quinine, as much as three grammes of the solution can be injected into the veins without danger.

The great value of the method is in pernicious fever, for in other cases of malarial fever the ordinary methods of administration of quinine are usually efficient. In pernicious fever, one gramme of the solution should be the tentative dose. Of this form, 5 cases were treated by Baccelli with good results. Of these, 3 were of the somnolent variety, 1 was associated with hemiplegia, and 1 with bulbar symptoms. In addition to the quinine injections, analeptic and cardiac remedies were administered, especially repeated injections of ether, in large doses—five to ten grammes in twenty-four hours. The effect of the specific treatment in these cases was shown rather by the disappearance of the dangerous symptoms than by reduction of temperature, for in such cases temperature is frequently moderate, or even remains normal (*larval malaria*). In general, the following results were noted: The injections did not prevent or modify the fever paroxysm, if made at the acme, at the beginning, or even as many as three hours previous to the access. If made at the end or during the decline of the paroxysm, the succeeding paroxysm was either entirely prevented or much reduced in intensity. In the sub-continued forms of fever, which are usually rebellious to medication, it was found useful to make the injection during the period of remission, the effect being to transform the type into that of an intermittent, usually with an accelerated crisis.

We would especially call the attention of practitioners in the Western and Southern States of the Union to this important research, which seems to furnish them with a better method of combating the pernicious forms of malarial infection than has yet been at command.

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SATURDAY, SEPTEMBER 27, 1890.

EXOPHTHALMIC GOITRE.

WHEN the classical triad of symptoms—rapid heart, protruding eyeballs, and enlarged thyroid gland—is present, nothing is easier than the diagnosis of the affection to which English authors attach the name of Graves, and German writers that of Basedow. Quite different is it, however, if one or more of these signs should be absent or so slight as to escape notice unless searched for. The writer of this article remembers very well a case in his early practice which he mistook for phthisis on account of the repeated occurrence of hæmoptysis; and he has now under his care a case also attacked by pulmonary hæmorrhages, which had been variously diagnosed as phthisis, nervous dyspepsia, and hypertrophy of the heart. These two cases further agreed in the absence of exophthalmos, and in the fact that the thyroid enlargement was not perceptible upon casual observation, being hidden by the clothing of the patient, and very slight withal.

The early recognition of the affection, however, is a matter very often of prime importance; for it may be stated that, as a rule, the favorableness of the prognosis as to cure varies inversely with the duration of the disease. The difficulty of diagnosis is sometimes as great when the goitre presents itself as a prominent symptom, as when the goitre must be sought for; the most important of the three symptoms being the disturbed condition of the heart. In any case of overacting heart, especially in a neurotic subject, and more especially when associated with other phenomena of vasomotor ataxia, Graves's disease should be taken into consideration in the diagnosis and should not be lightly excluded. Even in the absence of demonstrable goitre, a thrill felt within, or in the immediate neighborhood of, the suprasternal notch, associated with a soft systolic blowing murmur, though not pathognomonic, is significant. When this symptom is found, careful observation will often bring to light the existence of a condition of intermittent enlargement of the thyroid gland, which would render the diagnosis certain.

SEELIGMUELLER (*Deutsche medicinische Wochenschrift*, May 29, 1890) has collated the most recent observations upon the symptomatology, pathogenesis, and therapy of the disease. According to this author, tremor, to which attention was first directed by Charcot in 1883, has assumed considerable importance as an initial symptom; thus Lewin observed it in thirteen out of twenty-seven cases as the first manifestation of the disease. One of his patients, a boy of nine years, after a severe fright suddenly exhibited muscular trembling and stuttering speech, while the full clinical picture of exophthalmic goitre did not present itself until the patient reached his seventeenth year. In the case of an hysterical girl, seventeen years old, who came under the writer's care at the medical clinic of the Jefferson Medical College Hospital, nystagmus had existed since childhood; goitre and cardiac disturbance suddenly developing after a fright consequent upon a fall from a step-ladder. In this case exophthalmos developed under observation.

Diminution of electrical resistance of the skin, first observed by Vigouroux and confirmed by Charcot, Eulenberg, von Martius, and Kahler, while not pathognomonic is an important symptom. It is plausibly attributed to increase of moisture the result of insensible perspiration. Irregular temperature is another indication of vasomotor instability which may be an aid in the diagnosis. Complications with epilepsy, tabes, ophthalmoplegia externa, irregular bulbar paralysis, polio-encephalitis, paralysis of the limbs, diabetes, polyuria, hysterical paralysis, etc., are reported. The importance of hysterical symptoms in diagnosis has long been known.

Of the more recent theories of pathogenesis, only

two demand attention: that which places the origin of the affection in the medulla, and that which seeks it in the thyroid gland. Durdufi has repeated Filehne's experiment upon animals and has succeeded in producing protrusion of the eyeball by section of the medulla at the level of the auditory nucleus, though he was not able, as Filehne was, to produce goitre and cardiac disturbance.

Hale White has reported the results of an autopsy on a patient who died from pneumonia, after having for years suffered with exophthalmic goitre, in which he found in the floor of the fourth ventricle a number of small hæmorrhagic infarcts. These he attributed to the influence of the circulatory sequelæ of the pulmonary inflammation, upon a place of lowered resistance.

Paul Moebius first put forth the idea that disturbance of thyroid function is the primary stage in the general clinical features of the affection, thus making the disease correlated with myxœdema and cachexia strumipriva. Gautier upholds this theory by citing cases in which surgical operations upon the goitre have caused the disappearance of all symptoms. The study of early cases, however, must negative this view—at least in the eyes of the clinician.

In the matter of therapy, recent contributions do not help us much; although instances of recovery under various methods of treatment continue to be reported. In our own experience, picrotoxin, as recommended by Bartholow, has proved of service.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Fourteenth Annual Meeting, held at Richfield Springs, New York, September 2, 3, and 4, 1890.

THE President, DR. PRINCE A. MORROW, of New York, called the meeting to order and delivered

THE PRESIDENT'S ADDRESS,

in which he said that those engaged in the practice of dermatology had abundant cause for congratulation. Only a few years ago dermatology had but little standing in America, as shown by the fact that until 1876 only twelve medical schools gave special instruction in diseases of the skin. To-day, as he had learned by the answers to circular letters sent to one hundred colleges, dermatology was a part of the curriculum in eighty-six. But, he said, there is reason to believe that there are many and grave defects in the existing system of instruction, and that the capacity of some of the teachers in our medical schools is doubtful, while the clinical material in the majority of cases is inadequate. Even in large cities the clinical material is too much dispersed. In New York, for instance, instead of having a central hospital for all dermatological cases, as in Paris, the clinical material is scattered in various dispensaries and hospitals.

In the matter of nomenclature, Dr. Morrow said that new names are being introduced into dermatology which are not destined to retain a permanent position, and that while an essentially new disease requires a new name, yet he protested against the present neological craze.

DR. R. W. TAYLOR, of New York, then read a paper entitled

OBSERVATIONS ON PRURIGO, CLINICAL AND PATHOLOGICAL.

The author said that new interest in this disease had been excited by Dr. Zeisler's paper, read at the last meeting of the Association, in which twelve cases were described which had been seen by Dr. Zeisler in Chicago. The combined experience of all present at that meeting included only eighteen cases. Dr. Taylor thought that the disease is more common in America than is generally supposed. It is probable that many cases escape recognition and are classed as eczema, scabies, pediculosis, ecthyma, impetigo, and even ichthyosis.

Dr. Taylor then described a case that he had recently seen, and also alluded to the casual concomitants and modifying conditions during the course of the disease. The patient was a healthy girl, nine years old, of healthy American parents in good circumstances, and with healthful surroundings. When four years old she began to scratch, and little red pimples appeared on the face, forearms, and legs, which the parents thought were mosquito-bites. The disease has recurred every year. When first seen by Dr. Taylor, January, 1890, the expression of the child's face was rather dull and her color was the typical white, somewhat ashy hue of prurigo. Over the forehead, temporal region, and cheek was a copious eruption of small conical papules, some whiter than the skin, others of a yellowish hue, and some well capped with a blood-crust the result of scratching. They were not upon the site of sebaceous glands. There was no marked dryness or want of vitality in the hair, although there was slight mealy desquamation in the scalp, such as Hebra describes. The eruption did not appear on the neck and nucha, but began where the shoulder merged into the neck. The principal eruption was on the back of the hand and forearm and on the external and anterior surface of the legs, where the papules were as large as a split pea. There were also some on the arms, buttocks, and thighs. They were scattered and without a semblance of grouping.

DR. W. T. CORLETT, of Cleveland, Ohio, followed with

A CLINICAL STUDY OF PRURITUS HYEMALIS—WINTER-ITCH, FROST-ITCH.

This affection, he said, was first pointed out as a disease by Dr. Duhring, and at about the same time by Mr. Jonathan Hutchinson. In one case in Dr. Corlett's practice it had recurred during the cold season for more than twenty-two years. In another case the eruption had at times the appearance of urticarious patches two

or three inches in diameter, confined to the extremities, subsiding in about ten minutes, and leaving for a short time a dark yellowish spot. A third case was in a negro, showing that that race is not exempt.

The author's experience showed that the state of the general health had no appreciable effect on the pruritus; that the local irritation of the clothing, although capable of aggravating the malady, is not by itself able to produce it; and that meteorological conditions seem to be the main etiological factor. The disease is most common when the temperature and humidity are low, with a wind blowing from the northwest. Under these conditions evaporation is rapid, and the low temperature reduces the glandular activity of the skin to the minimum. As a consequence the skin becomes harsh, the peripheral nerves are irritated, and the disease results. He did not think the primary irritation could be central, else in time it would give rise to a more permanent disease.

The treatment is largely palliative. Internal medication seemed to have little effect in Dr. Corlett's cases, but he had used with advantage an application of ichthyol and resorcin.

DR. E. B. BRONSON, of New York, read a paper on

PRURITUS,

and was followed by DR. J. T. BOWEN, of Boston, who reported a series of cases of

CUTANEOUS TUBERCULOSIS,

and gave the results of his histological studies.

DR. L. A. DUHRING, of Philadelphia, spoke on the

TREATMENT OF DERMATITIS HERPETIFORMIS.

He said that as the several papers published by him on dermatitis herpetiformis contained no reference to treatment, it seemed appropriate to speak now of the treatment of this exceedingly rebellious disease. Each group of cases based on the etiological factors at work require special handling. A speedy cure cannot be expected. It must be remembered that the disease, as a rule, is multiform in character, and that the several varieties require different applications. His experience has been that milder remedies are called for in the erythematous than in the vesicular and bullous forms. A difficulty to contend with is the tendency of the disease to repeat itself, a new crop coming out before the old one disappears. Almost all his cases were chronic, and had previously undergone all manner of treatment.

He has reached the conclusion that the most benefit is derived from stimulating applications, especially those which act as revulsives, such as tar, carbolic acid, sulphur, thymol, ichthyol, resorcin, etc. That which in his hands has proved of the greatest value is sulphur ointment—two drachms of sulphur to the ounce of ointment, applied by thorough and long rubbing, so as to make a positive impression upon the skin, causing, as it were, local shock. Dr. Duhring especially emphasized the manner of making the application. Internal remedies had proven of little avail in most cases.

DR. F. J. SHEPHERD, of Montreal, reported a case of

ATROPHIA MACULOSA ET STRIATA, FOLLOWING TYPHOID FEVER,

and showed photographs of the patient, a boy fifteen years old, who was admitted to the hospital with typhoid fever. During the course of the fever he was delirious, and had epileptic attacks. Macular lines formed, extending across the patellæ and around the anterior aspect of the thighs to near the middle, some being several inches long. They were at first of a reddish color, but became paler, were not distinctly shiny, and were grooved. The interesting point in the case was the occurrence of the atrophic lines in a boy during acute fever.

DR. J. C. WHITE, of Boston, followed with a paper upon

IMMIGRANT DERMATOSES,

in which he said that on a ship the conditions tending to induce skin affections are: homesickness, seasickness, filth, foul air, constipation, inability to take exercise, and contact with others having contagious disease. It is not uncommon for young persons to be attacked, a week or ten days after landing, with an urticarial, bullous, or eczematous eruption. Of imported affections the most common is scabies. The rare affection, melanosis lenticularis progressiva, which Dr. White thought is not seen in native American stock, also occurs. Prurigo also might be regarded as an imported disease, and is scarcely seen elsewhere than in cities with a large foreign population.

The prevalence of vegetable parasitic affections among us is likely to be largely increased by immigration. Tinea favosa, tinea trichophytina, and tinea versicolor are more common in countries from which we receive many immigrants than they are here. The same is true of tubercular affections of the skin, and he is disposed to regard lupus, scrofuloderma, scrofulous gummata, tuberculosis verrucosa, etc., as closely-allied affections, inoculable and auto-inoculable.

In conclusion, the author suggested the propriety of addressing a memorial to the national government with regard to carrying out the following measures: (1) To remove all animal parasites from immigrants on landing, by cleansing the person and clothing. (2) To retain in quarantine all immigrants with contagious skin diseases, including venereal affections. (3) To return to their homes all persons affected with the contagious diseases that cannot be treated in quarantine, such as leprosy, tuberculosis, and advanced syphilis. (4) To provide efficient medical inspection at foreign ports of immigration, with the power to prevent the importation of dangerous diseases to this country.[1]

DR. R. W. TAYLOR then described

A CASE OF SECOND INFECTION WITH SYPHILIS, AND A CASE OF SYPHILITIC INFECTION IN A PERSON HEREDITARILY SYPHILITIC.

The first case was that of a sickly-looking woman, aged thirty-eight years, who entered the Charity Hospital in January, 1890. Eleven years ago she had syphilis, accompanied with a hard swelling of the external genitals, enlargement of the glands, and an eruption entirely over the body. The second year she had rheumatoid pains and mucous patches; the third year, serpiginous syphilides, etc.

[1] Later the Council was given power to carry out this suggestion in a modified form, and to send a memorial to the United States and Canadian governments upon the propriety of these measures.

She married and gave birth to two weak children, which soon died. Her husband dying, she again became a prostitute, and entered the hospital broken-down in health. There were typical miliary syphilides scattered over nearly the entire surface of the skin; all the ganglia were markedly enlarged; there were mucous patches of the tongue and mouth, and evidences of alopecia, and pain in the joints which was worse at night. The second attack was much more severe than the first. She is improving under mercurial treatment.

The second case was one of acquired syphilis in a person hereditarily syphilitic. The woman came to Dr. Taylor in 1879, when she was nineteen years old. At that time he treated her for a destructive syphilitic sore on the face, due to hereditary syphilis, a clear history of which was afterward given by her mother, who acquired syphilis three months before the child's birth. The child had a rash, condylomata cuta, sniffles, etc. In 1885, five years after the patient's first visit, she returned, and then had a roseola, scaling syphilides over the entire body, condylomata of the genitals, mucous patches of the pharynx, etc. The infection began in the right labium, and was contracted from her husband. All the glands were enlarged, and there was alopecia. She has since been cured.

DR. G. T. JACKSON, of New York, then read a paper on

ELECTROLYSIS IN THE TREATMENT OF LUPUS VULGARIS,

in which he said that the advantages of electrolysis, in the treatment of lupus vulgaris, over other and older methods are as follows:

1. It is comparatively painless, and does not require the administration of an anæsthetic.

2. There is not the slightest loss of blood, and thus there is no dread of a surgical operation.

3. The patient is not kept a moment from his occupation, there is no deformity caused by the treatment, and no disfiguring applications are required. He is also spared the discomfort of a swollen face, the ordinary attendant of the arsenical or pyrogallic acid treatment.

4. The treatment goes to the root of the disease with far more exactness and less damage to the surrounding skin than any other caustic or surgical method, and the scar left is smooth and not unsightly.

5. The result obtained is as good as, if not better, than that of any other method of treatment.

DR. H. W. STELWAGON, of Philadelphia, then showed photographs of

A CASE OF PLICA

which he had seen a few months ago, although he was not sure that plica is the right name for the disease. The woman came to be treated for acne, and called his attention to a lock of hair as thick as one's thumb springing from the middle of the occipital region, closely matted together and falling as low as the ankles, terminating in a brush-like end. It had begun to grow four years before, from no apparent cause; it was not sticky. The rest of the hair fell over the shoulders, and was not matted.

DR. C. W. ALLEN, of New York, followed with a paper on

THE TREATMENT OF ERYSIPELAS,

based upon the results of treatment, during the past two years, of 419 cases in the hospitals on Blackwell's Island, not under his care, and 47 cases in his own practice during the same time. Of the former, 21 died; of the latter, 4. Various forms of treatment were employed, and consisted chiefly in applications of different kinds. Dr. Allen thought that, although tending to pursue a definite and usually favorable course, the disease can be checked by treatment. Among the applications used were boric acid, iodine, resorcin, bicarbonate of sodium, ichthyol, collodion, aristol, scarification with the knife, and plaster strips. He is disposed to think favorably of scarification and adhesive plaster, separately or combined, but has tried them in only two cases.

DR. H. G. KLOTZ read a paper entitled

NOTES ON PILOCARPINE IN DERMATOLOGY,

in which he reviewed the history of pilocarpine in dermatology, and said that it had not met with the acceptance which one would have expected if its therapeutic virtues were at all proportionate to its diaphoretic qualities. The author has employed the remedy in a few cases, including eczema, pruritus of the anus, and affections with dryness and irritation as symptoms. The results were such as to encourage him to give it a further trial. It can be given internally, or by hypodermic injection, in small doses and continued for a long time. A tenth of a grain is probably sufficient to keep the skin moist.

DR. C. W. ALLEN then related his experience with

ARISTOL,

which, he concluded, possesses excellent cicatrizing, granulating, and stimulating qualities, is free from the objectionable odor of iodoform, and seems valuable in certain dermatological cases.

DR. C. C. RANSOM, of Richfield Springs, then reported, by invitation, the

RESULTS OF TREATMENT OF DERMATOLOGICAL CASES BY SULPHUR WATER AT RICHFIELD SPRINGS.

He said that since the new bathing establishment had been completed, 22 cases had been treated, including 9 of eczema, 1 of psoriasis, 4 of seborrhœa, 1 of pruritus, and 2 of urticaria. In nearly all of these cases there was marked improvement, and in some a cure. The temperature of the baths was usually from 95° to 106° F., and they lasted from seven to fifteen minutes. A longer stay in the sulphur bath has a depressing effect which continues for some hours.

The officers elected for the ensuing year are Dr. Greenough, of Boston, President; Dr. F. N. Denslow, of St. Paul, Vice-President; and Dr. G. T. Jackson, of New York, Secretary and Treasurer.

AMERICAN ORTHOPÆDIC ASSOCIATION.

Fourth Annual Meeting, held in Philadelphia, September 16, 17, and 18, 1890.

FIRST DAY—MORNING SESSION.

THE Association met in the Hall of the College of Physicians, and was called to order by the President, DR. DE FOREST WILLARD, of Philadelphia, at 10 A. M.

After a short business meeting, the President delivered his

ANNUAL ADDRESS.

In a few well-chosen words he welcomed the members of the Association as a Philadelphian, and extended to them the hospitalities of the city.

Referring to orthopædic surgery in Europe, Dr. Willard said that during his trip across the water he had found it in a far less advanced state than he had anticipated. In America it stands farther ahead in its surgical aspect, and in the ingenuity of its mechanical contrivances, than it does across the ocean. Such men, however, as Macewen, Edmund Owen, and Howard Marsh are doing excellent work. He was pleased with Macewen's clear-headed, strong and earnest advocacy of laminectomy and other operations which promise to give relief and assistance in a certain number of cases of caries of the spine with pressure-paralysis.

Following Dr. Willard DR. E. H. BRADFORD, of Boston, read a paper entitled

TREATMENT OF DEFORMITIES OF SPASTIC PARALYSIS,

in which he said that orthopædic surgeons have not done full justice to the surgical treatment of this affection, because the disease has been but little understood, although it is one which occasions distortion and difficulty in locomotion. Light, however, has been thrown upon the subject recently by neurologists, and it is now recognized and studied. The author has not been able to gain permanently satisfactory results by the use of appliances, although in infantile paralysis—sometimes confounded with spastic or cerebral paralysis—appliances are of great assistance. He has not derived any benefit from the use of electricity, and but very little from massage in these cases. Where the lower extremities are affected by this disorder, he has had satisfactory results from tenotomy and myotomy of the resistant muscles,—*i. e.*, the tendo-Achillis, hamstring muscles, and the adductor muscles. After the operation a light appliance should be worn to aid locomotion for a month or so. Permanent benefit may be expected in children free from mental deficiency. His experience included fourteen cases, with ages ranging from four to sixteen years. He had had no experience in operating upon adults suffering from this affection.

DR. ARTHUR J. GILLETTE, of St. Paul, Minnesota, contributed a paper on

TENOTOMY FOR RELIEF OF DEFORMITY IN SPASTIC PARALYSIS,

and reported a case.

The patient was eleven and one-half years of age. The deformity consisted in the flexion of the right forearm upon the arm. Whenever the patient became excited the muscles of the arm became rigid, as did the fingers of the hand of the same arm. The right foot was in the position of talipes equinus, and when the patient attempted to walk so that weight was thrown upon the foot, it was brought into the position of talipes equino-varus.

Dr. Gillette divided the tendo-Achillis, which permitted the foot to come into good position. It also relieved the flexion at the knee. He then placed the foot in plaster-of-Paris and allowed it to remain in this dressing a few weeks, the child playing and walking as much as she desired. When he removed the plaster he applied an ordinary ankle-brace with a "stop-joint" to prevent the foot from returning to its former position. It is now eight months since the operation was done, and the child has not yet had the slightest spasm of any of the muscles of the foot. The ankle-joint will permit of almost all the normal movements, and the patient walks with but a slight limp.

DR. AP MORGAN VANCE, of Louisville, read a paper entitled

AMPUTATION AS AN ORTHOPÆDIC MEASURE.

He said that the introduction of amputation as an orthopædic measure was something out of the recognized lines, but as orthopædists are expected to relieve patients of deformity it is obvious that if amputation in some cases is the best and often the only way this can be done, the operation may be performed by the orthopædic surgeon. In the past ten years quite a number of cases had come under his observation and care in which there was no doubt in his mind that amputation performed for convenience' sake would have been better than any other treatment. Among those in which the knee can be saved will be found a few cases of old infantile paralysis (talipes), and adult cases of congenital talipes, where painful bursæ have developed and life is often unendurable from the pain caused by walking. On the other hand, old subluxated knees with ankylosed patellæ, with flail joints and great shortening, are not uncommon. Some of these cases can be converted from hopeless cripples into useful members of society by a proper amputation and adjustment of a good artificial limb.

Dr. Vance then reported four cases illustrative of the good done by amputation performed for orthopædic purposes.

AFTERNOON SESSION.

DR. HENRY LING TAYLOR, of New York, described

A READY METHOD OF COUNTER-TRACTION AT THE KNEE.

He said experience had shown the obstinate and serious nature of many cases of synovitis and arthritis of the knee, and the frequency of grave sequelæ, unless treated with the utmost care and precision. Properly applied counter-extension with fixation and recumbency usually affords prompt and often marvellous relief to the intense suffering in the active stage of the trouble, and at the same time provides conditions favorable to the proper nutrition of the joint and the subsidence of the inflammatory process. Fixation alone, or simple traction by means of the weight and pulley, however useful in an emergency, give by no means the same results. Dr. Taylor is convinced that the early application of some form of counter-extension is of extreme importance in surgical inflammations of the knee-joint.

DR. F. H. MILLIKEN, of Philadelphia, contributed a paper on the

TREATMENT OF INFANTILE CLUB-FOOT PRELIMINARY TO OPERATION.

He offered some suggestions regarding the treatment to be used in cases of club-foot before proceeding with

the operations of tenotomy and osteotomy. Not infrequently we hear of tenotomy, and even of osteotomy, as having been performed on the feet of infants not more than two or three months old. This he considers premature practice.

In private practice and among people possessing a fair amount of intelligence, the traction principle is by far the preferable method of treating infantile club-foot; but in dispensary practice the surgeon meets with a different class.

The directions are not faithfully attended to, and cases show little improvement. For this reason the fixed dressing is preferable for the class of cases that apply for treatment at the dispensary clinic. But neither the fixed dressing nor any other can be depended upon to correct a case of severe club-foot or effect a permanent cure without a final resort to the use of the knife.

DR. BENJAMIN LEE, of Philadelphia, in a paper entitled

SACRO-ILIAC DISEASE,

reported two cases, and from them deduced the following corollaries:

1. Disease of the sacro-iliac symphysis induces a characteristic deformity of the spine, of which the features are a lateral displacement of the entire trunk in a direction away from the affected side, a single curve comprising the entire length of the spine, and the almost complete absence of rotation.

2. It also induces a peculiar rolling or waddling gait.

3. It is often the cause of inveterate and excruciating sciatica.

4. It is useless to attempt to remedy the spinal distortion so long as its cause remains unrelieved.

5. The existence of chronic pain in the sciatic nerve, not yielding in a reasonable space of time to medication, should always lead the practitioner to make a careful examination of the spine and of the region of the sacro-iliac juncture.

6. This affection is met with more frequently in adult than in child-life.

7. Its appropriate treatment consists in splinting the pelvis and thus preventing motion between the opposing surfaces of the symphysis, motion not being its natural function.

8. For the same reason extension cannot be expected to produce the favorable results in this affection that we obtain from it in arthrodial joints.

9. The disease is often of extremely slow development.

10. Its first symptom is often abdominal pain, whence it may readily be mistaken for peritonitis, ovaritis, cystitis, and the like.

11. This pain is principally referred to the side on which the lesion exists.

12. The existence of severe unilateral abdominal pain, accompanied by little or no febrile action, should lead to the suspicion of the existence of this affection.

13. An instrument-maker may, by a happy chance, give temporary relief to a patient suffering from this disease, but as he is entirely ignorant of its seat and nature, he is not perhaps the safest person to refer the patient.

DR. ROYAL WHITMAN, of New York, read, by invitation, a paper on

THE TREATMENT OF PERSISTENT ABDUCTION OF THE FOOT,

in which he said that the successful treatment of any chronic affection demands a personal, persistent attention to details on the part of the surgeon.

The two principal objects in the treatment of this affection are: (1) to overcome the contraction and spasm of the abductors; (2) to straighten the adductors. This is best accomplished as follows:

The patient being etherized, the affected foot is forcibly extended and adducted—that is, both the heel and toes are turned inward so that the inner border of the foot is bent like a bow; it is then forced inward under the leg to a position of extreme equino-varus, the operation being attended with audible cracking of adhesions in all of the diseased articulations. In this position a well-fitting plaster bandage is applied with the object of persistently overstretching the shortened ligaments and contracted muscles and holding the foot firmly in its new position. The bandage may remain on a variable length of time according to the subsequent pain and the difficulty that has been experienced in the reposition. From one to three weeks is the average time for it to remain, after which it may be removed.

(To be continued.)

CORRESPONDENCE.

THE MEDICAL EXAMINING BOARD OF VIRGINIA.

To the Editor of THE MEDICAL NEWS,

SIR: In connection with a letter appearing in your issue of August 16, 1890, from a correspondent in Seattle, Washington, concerning "Medical Law in the State of Washington," it may be interesting to compare the medical examination as recently held by the State Medical Board of Virginia.

The Virginia Board is composed of thirty-two regular physicians and five homœopathists, and in its *personnel*, in the grade of the questions asked, and in the result of its labors, is excelled by none and equalled by but few, if any, other State boards in the country.

The thirty-seven members composing the board are divided into committees to preside over the examinations upon the following branches: chemistry, anatomy, hygiene, and medical jurisprudence; physiology, materia medica and therapeutics; obstetrics and gynecology; practice of medicine, and lastly, surgery. Six questions are asked upon chemistry, eight upon anatomy, six upon hygiene and medical jurisprudence, eight upon physiology, twelve upon materia medica and therapeutics, twelve upon obstetrics and gynecology, twenty upon practice of medicine, and twenty upon surgery.

The examinations are entirely written, and each applicant is known by a number which is placed opposite his name by the secretary of the board, he being the only member possessing this information. Thus all possibility of prejudice or favoritism influencing the decision of an examination is obviated.

The standard required is a general average of 75 per cent., but a grade of less than 33⅓ per cent. on any one of the subjects examined upon calls for the rejection of the applicant receiving it.

Before the board at its last meeting, on the 3d and 4th of September, 1890, twenty-four applicants for licence to practise in Virginia presented themselves for examination. Of this number, thirteen received the required average, and eleven fell below it, and were, therefore, refused certificates.

The examinations occupied two days, beginning on the morning of each day at nine o'clock and terminating in the evening at eleven o'clock; three hours were devoted to each branch examined upon, and one hour each for dinner and supper was allowed. It will thus be seen that, aside from the mental task, the time required to answer the questions imposed no small physical exertion. The length of time devoted to each branch also conveys some idea of the severity of the examinations.

Your correspondent, who was one of the applicants before the board at its last meeting, went to the examination with the impression that the board was prejudiced against outsiders and against those who are graduates of colleges not situated in Virginia. This impression was received from various sources and your correspondent believes it to be the one generally held in Philadelphia. Never was an impression more falsely founded, and it gives him pleasure to be able to bear testimony to the universal courtesy and fair treatment received from every member of the board before whom he appeared. That so many men, graduates and residents outside of Virginia, have been rejected by this board is due solely to the fact that the applicants have not been fitted to pass an examination before such a body of men as compose the Virginia State Board.

That nearly all the men who are graduates of the Virginia colleges pass these examinations is not on account of any favoritism shown them, but because they are well prepared, in theory at least, to stand the examination. For instance, the University of Virginia requires at its final examination a general average of 83⅓ per cent., a grade certainly not demanded by any college in Philadelphia. The examinations are both written and oral, and your correspondent was assured by a graduate of that institution that its examinations are fair in every particular, and that no cheating is indulged in by the student, a fact of considerable importance in judging of the relative merits of men from different colleges, in some of which, it must unfortunately be admitted, the evil exists to a considerable degree. Of course, such a training as is given its men by the University of Virginia, theoretical though it be, must have its effect in an examination which is in itself necessarily theoretical.

That the Medical Board of Virginia is doing a good work in keeping out of the State men of improper qualifications may be judged by the number of men it yearly rejects, and one cannot but believe that these rejections are just when one hears some of the answers to the questions asked. At the recent examination one of the applicants, who was of course rejected, to the question, "Describe an operation for the radical cure of inguinal hernia," replied that he did not know what hernia was; that it was "one of those new-fangled ideas that had recently cropped up," and that he had not yet heard of it. Another man, a graduate of a Northern college, received a grade of but twenty on chemistry, and one but little higher on anatomy. At the examinations held last year, to the question, "What is a cell, and describe its physiological functions," a brilliant follower of the healing art replied: "A cell is a place of confinement." This answer proved him to be deficient himself in cells—at least of the cerebral gray matter.

Of course this class of men has not been allowed to practise in Virginia, and these facts prove in an unanswerable manner the benefit the Virginia Medical Board is bestowing upon the profession of that State. It also clearly demonstrates the folly and negligence of those States that have not organized examining boards to judge of the qualifications of men desiring to practise medicine within their boundaries. If such poorly equipped men appear before the Virginia State Board, knowing that they will be obliged to stand a rigid examination, what must be the extent of the medical knowledge of some of the men who flock to those States where no State examination is required!

PHILADELPHIA, September, 1890.

ST. LOUIS.

To the Editor of THE MEDICAL NEWS,

SIR: The year 1890 will be a somewhat notable one in the history of medical colleges in St. Louis. Never in this city have there been erected in one year so many buildings expressly for purposes of medical instruction.

I have already mentioned in a previous letter the burning of the Beaumont Medical College building at Clark Ave. and Sixteenth St., and the subsequent purchase of a lot at Jefferson Ave. and Vine St. On this lot the faculty have so far completed the erection of a building that they feel warranted in announcing that the lectures of the regular term will commence there next month, while those of the preliminary course are being delivered in a hall near the college building.

The building is an imposing one in external appearance, and it is well adapted to the special uses for which it is designed.

More ornate and showy architecture is seen in the new building of the Marion Sims Medical College on Grand Ave. and Caroline St., an elevated point in the western part of the city commanding an extensive view in all directions, and affording a fine opportunity for the display of architectural effect which has been utilized to the fullest extent. Whether that elegant residence neighborhood will afford material for extensive clinics, which seem so important an adjunct to college-work, remains to be seen.

Another large and stately building is being erected on the corner of Gamble St. and Jefferson Ave. for the College of Physicians and Surgeons. This is, I think, a much more desirable site than the old one at North Market and Eleventh St.

In addition to these three large and handsome buildings nearly or quite prepared for use this fall, it seems probable that the old St. Louis Medical College is about to join the procession and move westward, for it is stated in the daily papers that the faculty have sold for $75,000 their property on Clark Ave. and Seventh St., which has become very valuable for warehouse purposes on account of its proximity to the railroad and depots, and undesirable as a site for medical college in every respect except for the vast amount of clinical material which is gathered from the densely populated district

surrounding it. Where the College will secure a new location is yet to be decided.

The several medical societies have resumed their stated meetings. The Medico-Chirurgical Society, in accordance with a vote taken last winter, will hold weekly meetings instead of bi-weekly as formerly.

An important practical question for early consideration by this society will be that of location. For the past four years the society has rented a hall in the building of the Post-Graduate School of Medicine, which is centrally located, commodious, accessible, and convenient both as an assembly room and as a library and reading-room. Now that the Post-Graduate School has been absorbed by the Missouri College, it is thought by many that the best interests of the society will not be conserved by having the meetings in the college building, and probably a change of location will be deemed advisable. It would be a consummation devoutly to be wished if the different societies would combine their forces and rent a suitable building, or better yet, erect one, which could be occupied by all, as no two hold their meetings on the same evening. By some such combination of resources it would be practicable to render the libraries of the several societies of much greater practical value to the members, as it would then be entirely feasible to have a paid librarian in constant attendance in the reading-room who could issue books to those desiring to read them at home, and preserve the files of journals.

One reason why comparatively few papers from St. Louis physicians find their way into the medical journals of other cities is that the policy of the St. Louis medical societies has been to make a contract with some home journal by which that journal shall publish all papers and discussions presented or occurring at society meetings. At present the *St. Louis Courier of Medicine* has secured the right to publish papers read before the St. Louis Medical Society, the Medico-Chirurgical Society, and the St. Louis Obstetrical and Gynecological Society.

DOUBLE CEPHALHÆMATOMA.

To the Editor of THE MEDICAL NEWS,

SIR: The great interest I felt in the cases reported by Dr. Barton C. Hirst of this rare affection in the newly-born infant, has encouraged me to add two cases from my own practice, which are almost fac-similes of those reported by him.

Last April, I was called to attend Mrs. T., primipara, twenty-two years old. Labor was normal, lasting in its three stages, respectively, nine hours, two hours, and twenty minutes. The child was a male, weighing ten pounds. The head was large, and there was extensive overlapping of the flat bones.

Three days later my attention was called to a small swelling on the left parietal bone. On the following day I noticed a similar swelling on the right parietal bone. In a few days these blood-tumors had reached the size of a hen's egg, the left somewhat larger than the right. Elasticity and fluctuation were distinct, but there was no tenderness on pressure.

I did nothing for these tumors, and when I discontinued my visits to the mother at the end of three weeks they had diminished in size considerably.

Two weeks later, however, I received a note from the mother, asking me to call, as "something was wrong with the bones of the child's head." The tumors had entirely disappeared; but the borders of the parietal bones were rough and raised one-half inch above, and overlapped the occipital bone. I could lay my finger between the bones. Near the posterior fontanelle, from the left parietal projected a piece of bone one-fourth of an inch long, so that the head presented a unique and marked deformity.

As the child was well, I did nothing. He was kept under observation, however, for about three months. At the end of that time his head assumed its normal shape.

In the second case the tumors were on the left parietal bone and on the left side of the occipital bone. Both were small. They subsided in three weeks, without treatment, leaving no deformity.

FRANCES HATCHETTE, M.D.

PHILADELPHIA.

THREE PROPOSITIONS TO DR. ERNST.

To the Editor of THE MEDICAL NEWS,

SIR: In volume V. of the *Annual of the Universal Medical Sciences*, 1889, Dr. Ernst states that Novy and I, in our little volume on *Ptomaïnes and Leucomaïnes*, make the suggestion that "bacteria may be the products of these alkaloids." In your issue of July 6, 1890, I asked Dr. Ernst to be kind enough to inform me on what page of the volume I could find the "suggestion." Dr. Ernst replied by quoting a part of a sentence, which by being isolated is made to appear to have a wholly different meaning from that which it has in the text, and which has no relation whatever to the question at issue.

Now the difference between Dr. Ernst and myself is easily stated. In the work on ptomaïnes and leucomaïnes, on the first page of the first chapter, I make the following statement concerning the relation between bacteria and ptomaïnes: "Since all putrefaction is due to the action of bacteria, it follows that all ptomaïnes result from the growth of these microörganisms." Dr. Ernst persists in stating that I teach the very opposite doctrine, *i. e.*, that bacteria are produced by ptomaïnes. I have these propositions to make to Dr. Ernst: I will submit the work on ptomaïnes, the article of his in the *Annual*, and our correspondence in THE MEDICAL NEWS, to any three teachers of bacteriology in America whom he may mention, and ask them to report over their own signatures whether or not "the suggestion that bacteria may be the products of ptomaïnes" can be found in the little volume written by Novy and myself.

My second proposition is to submit to the same men the question whether or not, in our correspondence in THE MEDICAL NEWS of July 5th, Dr. Ernst has fairly and honestly answered the questions which I ask.

My third proposition is to submit to any three scientific men in America, whom Dr. Ernst may select, and ask them to report their answer to THE MEDICAL NEWS over their own signatures, the following question: Is it fair and honorable to take from the sentence, "Indeed, so long as the investigation goes no further than this, we are justified in saying that the microörganism may be an accompaniment or consequence of the disease," the clause "we are justified in saying that the microörganism may be an

accompaniment or a consequence of the disease," and print it as an independent sentence, and give it as the meaning of the writer of the complete sentence?

I will ask you, Mr. Editor, to submit this letter to Dr. Ernst, and to inform him that I await his reply.

Respectfully,

V. C. VAUGHAN, M.D.

ANN ARBOR, September 16, 1890

NEWS ITEMS.

A Quack Libel Suit.—Suit has been entered by William Radam, manufacturer of Radam's Microbe-killer, against the *Druggists' Circular*, of New York, for $200,000 damages, the largest amount, so far as heard from, that was ever asked for in a libel suit of this kind.

The pleadings show that the action is brought to recover damages claimed to have been done the business of the plaintiff by an article published in the *Druggists' Circular* for September, 1889. This article gave the result of an analysis of the Microbe-killer made by Dr. R. G. Eccles, a prominent chemist of Brooklyn, who stated that an identical preparation could be made by the following formula:

Oil of vitriol (impure) . . .	4 drachms.
Muriatic acid (impure) . .	1 drachm.
Red wine, about	1 ounce.
Well or spring water . . .	1 gallon.

This mixture, it was alleged, could be made at a cost of less than five cents per gallon, for which Radam charged three dollars.

It was further alleged that while, when properly used, sulphuric acid, the principal constituent of the Microbe-killer, was a valuable medicine, it was, when taken without due caution or advice, a slow but certain cumulative poison; and the theories advanced by Radam, as to the causes of diseases and the proper method of treatment, were alleged to be totally erroneous. Col. Robert G. Ingersoll, the famous lecturer, is the counsel for the plaintiff.

The *Druggists' Circular*, which is published at 72 William Street, New York, expresses a desire to hear of any case in which unfavorable results have followed the administration of the Microbe-killer, or of any other fact that would be interesting under the circumstances. They claim to have published this analysis without malice and with the sole intention of protecting the public from the loss of their health and money by the use of a dangerous nostrum.

Honors of a Female Medical Student.—Miss Ann Frances Piercy, a student at the London School of Medicine for Women, has gained triple examination honors and two gold medals. In materia medica she held first place, with a medal; in anatomy, second place, with a medal; and in physiology and histology she was first-class.

The Aseptic Hand of the Surgeon.—An aphoristic saying of von Bergmann, on the importance of cleanliness of the hands of the surgeon, has been almost universally quoted by the German journals, as follows: "Infection by contact with the practitioner's hands plays no inconsiderable part in the etiology of the diseases of wounds, and the much-prized skilled hand of the surgeon may bring the greatest harm with the tenderest touch."

An Association of Medical Legislators.—The medical members of the French parliament have united to form an association for the purpose of taking concerted action upon proposed laws regulating the medical profession and the sale of medicines. The profession is more largely represented than before, in recent years, upward of eighty being physicians.

Accidental Poisoning in Bellevue Hospital.—In the case of a typhoid-fever patient who recently died from an overdose of carbolic acid in Bellevue Hospital, New York, the coroner's jury censured the nurse for his carelessness in administering strong acid when dilute acid had been ordered. The jury further found that the "said negligence was, in part, attributable to the authorities of Bellevue Hospital, who neglected to label properly the medicine prescribed by the regular physician, and who allowed made-up prescriptions for internal use to be mingled in the same chest with poisons of a violent nature, intended for external use only, and the whole to be placed in the control and custody of inexperienced nurse pupils, and in this case of one below the average intelligence."

Rhinoplasty in India.—A notable literary and scientific production, from the native press of Junagadh, India, is a description of one hundred cases of rhinoplasty, by Surgeon Trilovandas Motichand Shah, chief medical officer at the Junagadh Hospital. The author has collected the cases within four years, under peculiar circumstances. The deformities for which this procedure was required were not the results of disease, but of wilful mutilation committed either in revenge or as a causeless outrage on innocent persons, by a class of miscreants known in that country as the Makrani outlaws. The book is illustrated by photographs, which clearly show the extent to which the facial mutilation is carried by these criminals, as well as the signal improvement effected by surgical treatment. The author, who has worked upon his subject with much zeal and success, strongly advocates the old operation, in which the flap is taken from the forehead. It requires less time than the cheek-flap operation, and the subsequent disfigurement is much less, the forehead scar being readily concealed by the turban almost universally worn by the people of the province where these mutilations chiefly occur.

An Epidemic of Beri-beri.—A whaling bark has arrived at New Bedford, Massachusetts, after a cruise of five years. While off the coast of Patagonia several months ago the seamen were attacked with what is believed was beriberi. Thirty-four of the crew of thirty-seven were ill with the disease at one time, and nine cases proved fatal.

Burns from Chlorate of Potassium.—According to the *St. Louis Medical and Surgical Journal*, workers in chlorate of potassium manufactories have their clothes so completely saturated with the salt that recently one of them was severely burned by striking a match on his trousers. His clothes were at once a mass of flames,

and, although immediately plunged into a pool of water, it is probable that the burns will be fatal.

Medical Work in the Cholera Districts.—It is stated that the physicians at work in the cholera-infected districts of Spain continue to be ill-used by the peasants, who are opposed to the enforcement of precautionary measures. Notwithstanding that the physicians are provided with a military escort, three have been killed by the peasantry.

Leprosy in Surinam.—The Bishop of Dutch Guiana, who was recently in Baltimore, made an appeal for the lepers in his diocese. The disease has been unchecked by any sanitary precautions of the government, and has spread to a serious extent in Surinam. Three priests who came in contact with the diseased have become leprous, and one of them is now paralytic and helpless. This heroic priest, like the late Father Damien, of Malakao, left his home to spend his life among the neglected lepers of a foreign land. He first noticed the signs of the disease in himself in 1880.

A Prelate's Charity.—Cardinal Manning, not long since, was presented by his friends with an illuminated address and a purse of $37,000, in token of the silver anniversary of his episcopacy, and he soon afterward made public his intention to devote a large portion of the money-gift to the endowment of a bed in the accident ward of the London Hospital, for the use, *in perpetuo*, of humble workingmen who may be injured on or along the River Thames.

The Montreal General Hospital.—This conservative and venerable institution has turned over a new leaf, and, according to the *Montreal Medical Journal*, has never before been in so good a condition, The house staff are uniformed in white patrol-jackets, while the trained nurses are dressed in pink and white, with caps and badges. The wards look fresher and more business-like. The out-patient department has been enlarged, and fitted for the accommodation of the specialists. Clinical instruction will be better provided for than in the past. "The venerable institution has merely been drowsy, and is not yet moribund."

Obituary.—DR. PHANUEL EUCLID BISHOP, of Pawtucket, R. I., died of Bright's disease, September 21st, at the age of forty-six years. The deceased entered Brown University in 1862, but at the end of one year enlisted in the Union army. Soon rising to the rank of Second Lieutenant he was sent to New Orleans, and was for a time stationed at Fort Jackson. He was subsequently made Captain, was detailed as judge-advocate on court-martials, and was provost-marshal of St. Mary's parish in New Orleans. After the war he went West and graduated from a business college in Chicago, was superintendent of schools in a city of Iowa, and travelled considerably. Returning to Pawtucket, he was connected with the public schools for some time as teacher, and then as superintendent. At this time the degree of Master of Arts was conferred upon him by Brown University. Meanwhile he had found time to study medicine and attend lectures at Bowdoin and Dartmouth medical schools. He practised successfully in Pawtucket for seventeen years. He was a Fellow of the Rhode Island Medical Society, a Mason, an Odd Fellow, and a Forester. Two children and an only sister survive him.

—— DR. JOSEF VON JELENFFY, an eminent laryngologist of Hungary, did not return home alive from the Berlin Congress. He was able to attend the meetings of one day only, when he was prostrated by cardiac disease and was taken to the Catholic Hospital. He died soon after. At his funeral, which was attended by all the members of the laryngological section then remaining at Berlin, Dr. B. Fränkel, president of that section, delivered an address commemorative of the life and services of the deceased, speaking of him in most sympathetic terms.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 15 TO SEPTEMBER 22, 1890.

MIDDLETON, JOHNSON V. D., *Major and Surgeon.*—Is relieved from duty at David's Island, N. Y., and will report in person to the commanding officer Fort Columbus, New York City, for duty at that station, relieving Joseph Gibson, Major and Surgeon, and reporting by letter to the commanding general Division of the Atlantic. Major Gibson, on being relieved by Major Middleton, will report in person to the commanding officer David's Island, N. Y., for duty at that station, and by letter to the Superintendent of the Recruiting Service.—Par. 1, *S. O. 219, A. G. O., Washington*, September 18, 1890.

By direction of the Acting Secretary of War, the following changes in the stations and duties of officers of the Medical Department are ordered:

SPENCER, WILLIAM G., *Captain and Assistant Surgeon*, will, upon the abandonment of Fort Bridger, Wyoming (his present station), report in person to the commanding officer of Fort Omaha, Nebraska, for duty at that station, relieving Alfred E. Bradley, First Lieutenant and Assistant Surgeon. Lieutenant Bradley, on being relieved by Captain Spencer, will report in person to the commanding general Department of the Platte, for duty as Attending Surgeon at the Headquarters of that Department.—Par. 16, *S. O. 214, A. G. O., Washington, D. C.*, September 12, 1890.

By direction of the Acting Secretary of War, leave of absence granted WILLIAM N. SUTER, *First Lieutenant and Assistant Surgeon*, in Special Orders No. 149, June 26, 1890, from this office, is extended fourteen days.—Par. 6, *S. O. 214, A. G. O., Washington, D. C.*, September 12, 1890.

By direction of the Acting Secretary of War, the leave of absence for seven days, heretofore granted HENRY MCELDERRY, *Major and Surgeon*, by the Superintendent of the U. S. Military Academy, is extended to November 10, 1890, on account of sickness.—Par. 5, *S. O. 214, A. G. O., Washington, D. C.*, September 12, 1890.

By direction of the Acting Secretary of War, JOHN J. COCHRAN, *Captain and Assistant Surgeon*, now on duty at Fort Adams, R. I., will proceed to Mount Vernon Barracks, Ala., and report in person to the commanding officer of that post for temporary duty, and, on completion of the duty contemplated, he will return to his proper station.—Par. 2, *S. O. 214, A. G. O., Washington, D. C.*, September 12, 1890.

By direction of the Acting Secretary of War, leave of absence for three months, commencing about October 1, 1890 is granted FRANK J. IVES, *Captain and Assistant Surgeon*, provided one of the Assistant Surgeons serving in the Department of the Missouri can be assigned to duty in his stead at Fort Sill, Oklahoma Territory, during that time.—Par. 26, *S. O. 213, A. G. O., Washington, D. C.*, September 11, 1890.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 20, 1890.

OLCOTT, F. W., *Passed Assistant Surgeon.*—Ordered to the U. S. S. "Alert."